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AIR FORCE

THE MAGAZINE OF AMERICAN AIRPOWER

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Our Arctic Underground

What UMT Would Mean to the Air Force

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Powered by the Javelin is ful fighters ir vice ceiling and an ext climb.

Its produ and first c rons are e

Deliver ers to N ing pl

Pearl Harbour was a good lesson for all of us. We doubt that the next war will start with weeks and months of diplomatic tea parties. The chances are that it will come like sudden death. And, if you were the enemy, with all the chips down, a sneak attack on London would seem like a pretty good opening tactic.

Defence against this sneak attack is not an easy job. Certainly an early warning radar network in Europe is vital, but even single high-flying, high speed atomic bombers can wreak immediate destruction. And if, and when they try, the prime defensive weapon is the Gloster Javelin. Here is an aircraft second to none in the world. It flies and fights at altitudes higher than ever before. It has a destructive power tough enough for any bomber, but the most important thing of all is that it carries in it the most complex search radar gear, a British invention, which is unparalleled in any other aircraft.

Fair weather or foul, night or day, the Javelin can track down and engage in combat any bomber. The Javelin carries a two-man crew – one to fly the aeroplane and the other to operate the complex radar gear.

Very little can be said about the delta-wing Javelin because Security prevents it, but airmen know it for what it is – the most important aircraft in Western Europe. It is powered by twin Armstrong Siddeley Sapphires and is made by Gloster, who made the first successful jet aircraft and comes from the Hawker Siddeley Group, makers also of the Hawker Hunter intercepter and the Avro Vulcan four-jet Delta bomber.

DAY AND NIGHT ALL WEATHER FIGHTER

Gloster Javelin

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New Navy Cougars Scramble After Unknowns

That plane passing over your house is being watched. If high, radar tracks it. If low, the on duty Skywatchers of the Ground Observer Corps report it to their Air Defense Filter Center.

When your Air Defense Filter Center has received two reports, the plane is tracked on the plotting table. The plane and track is then reported to the Air Defense Direction Center.

If the aircraft does not fit into Direction Center's flight plan infor tion, it becomes an "unknown". N Navy fighters are also "scramble to intercept and identify or dest

GRUMMAN AIRCRAFT ENGINEERING CORPORATION

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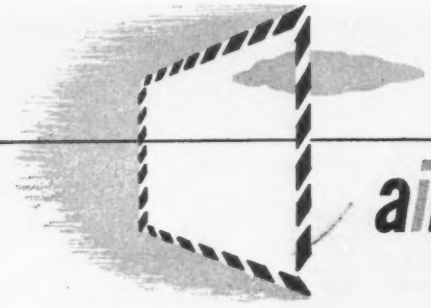
Designers and builders also of the supersonic Tiger, the Albatross amphibian, S2F sub-killer, metal boats, and Aerobilt truck bodies.

Grumman

The Navy, as part of the Continental Air Defense Command, sends land-based Cougar I's* and the new Cougar II's to intercept. The Cougar II not only is faster and has longer range than the Cougar I, but can pull a high altitude turn in half the radius. Another example of Grumman planes ready in quantity when needed.

On April 1, 1954, the Navy proved the speed of Cougar I's by flying three coast to coast in the fastest time yet. The first made it from San Diego to Floyd Bennett Field in 3 hours, 45 minutes, 30 seconds. The other two were less than 2 minutes slower.



air mail

AF-ROTC Duty

Gentlemen: In your September '54 issue, M/Sgt. Frank J. Clifford states in his very interesting article:

"If I was running the Air Force, I would give first preference for detached service jobs such as recruiting, AF-ROTC, Air National Guard, etc., to men overseas. This has recently been done in an oblique way by allowing men overseas to apply."

Having been on AF-ROTC duty for four and a half years at the University of Wisconsin before coming overseas, and desiring return to that duty, I was interested in Sergeant Clifford's statement that an airman overseas could apply for AF-ROTC duty. To date we on Okinawa know of nothing that allows us to apply before we return to the ZI.

M/Sgt. Keith W. Huffman
APO 239, San Francisco, Calif.

• *AF Manual 39-11,* "Military Personnel Assignments," *due out this month, revises regulations and will tell men serving overseas how they can apply for AF-ROTC duty in the ZI.—The Editors.*

The Real Goal

Gentlemen: In the November issue of AIR FORCE the article "No Place to Dig," by Wilfred Owen, ends on an incredible note. Quoting from the last paragraph, "But that is a holding action [our air defense a-building, plus SAC] while the nations of the world, acting in their own selfish interests, can arrive at mutually acceptable plans for the control of military forces and the application of atomic energy to the peacetime necessities of all the people of the world." Then Mr. Owen concludes: "That is the great challenge, the real goal, the only heading. There is no other place to go."

On this I agree entirely with Mr. Owen —but the incredible thing is this: if he really believes all these other matters are only a holding action for the primary campaign, why does he spend the whole of an otherwise excellent article on the holding action, and imply no sense of responsibility on his part to accept the "great challenge"—and, worse yet, leave the reader with no such sense of responsibility? Does anyone assume that, while "holding action" requires unprecedented effort and money, the real solution will float in of its own accord?

Where are the voices that will speak out for "the real goal" and put it in proper perspective with the still indispensable military effort? Among the very few is Mr. Thomas K. Finletter, whose book *Power and Policy* is reviewed by T. F. Walkowicz in the same issue of AIR FORCE. Mr. Finletter's plea for enforceable disarmament carries special weight because of his lucid analysis of the military requirements of the air-atomic age, lacking such disarmament. I profoundly hope that readers of this book will harken as well to Mr. Finletter's search for peace, as to his quest for military supremacy. This dualism is absolutely essential for the survival of all that we cherish.

Col. Ronald C. McLaughlin
Minneapolis, Minn.

• *Three cheers for Colonel McLaughlin. My article was intended to draw attention to "the real goal" by questioning the futility of present preoccupations.—Wilfred Owen.*

No Improvement

Gentlemen: Just received the November issue of AIR FORCE and enjoyed Ed Hogan's article "American Eagles in a Bamboo Cage" immensely. It was a terrific job of writing, and I'm very grateful to you and AFA for giving the subject the full treatment. I sincerely hope that its effect upon the readers will bring about a change for the better in the caged eagles' status.

Maj. David McCallister, ANGUS
Folsum, Penna.

• *There has been a change, but hardly for the better. See page 16.—The Editors.*

Straight Facts

Gentlemen: As a charter member of the Air Force Association I want to condemn the censorship attitude of the retired colonel who, in the November "Air Mail" column, denounced your August article "Red Pilots Never Had It So Good." According to the colonel's way of thinking, it's subversive to print facts if they disclose American shortcomings.

The trouble with censors is that they habitually assume only they are up to facing the ugly truth, which they then must hide lest it arouse the rabble. Please continue to publish all the facts as they arise on all controversial subjects of interest. I don't like it any better than the colonel does if Russian air force pilots live higher on the hog comparatively than American Air Force pilots do. But I believe you can assume your readers are sufficiently grown up to face the truth and, if it reveals a shortcoming, take helpful corrective action. And that last, I assume, was what you had in mind when you published the story in question.

I trust your magazine presents facts, something the colonel seems all too quick to doubt. The day you shun facts because they are controversial, or the day you start censorship practices not directly related to the nation's security, please scratch my name from your rolls.

To clarify the issue in question, why not spell out how you got your facts.

R. W. Haitch
Fort Lee, N. J.

• *For obvious reasons the source of our facts cannot be revealed. However, we were satisfied as to their authenticity or we would not have published them.—The Editors.*

Sergeants' Dilemma

Gentlemen: Reference is made to feature article, "Dress Right!", by M/Sgt. Frank J. Clifford, in the November AIR FORCE.

I am not a critic of Sergeant Clifford's article; I think it's fine except he mentioned a few items that don't ring true. I've checked AFR 5-2 and 5-3 but nowhere can I find AFL 35-5 and AFL 35-47. Service dress uniforms for Air Force personnel is AFR 35-14, 15 Nov 50, as amended, and being replaced by an Air Force Uniform Manual.

AFR 39-54, 31 Mar 54, paragraph 3—initial allowance for male airmen is $199.15— Basic Maintenance allowance is $4.20, Standard Maintenance allowance is $6.00.

About the tie, AFR 35-14, paragraph 10a, does not mention the type knot you should use; nor does Sec. VI, par 34b.

(Continued on page 7)

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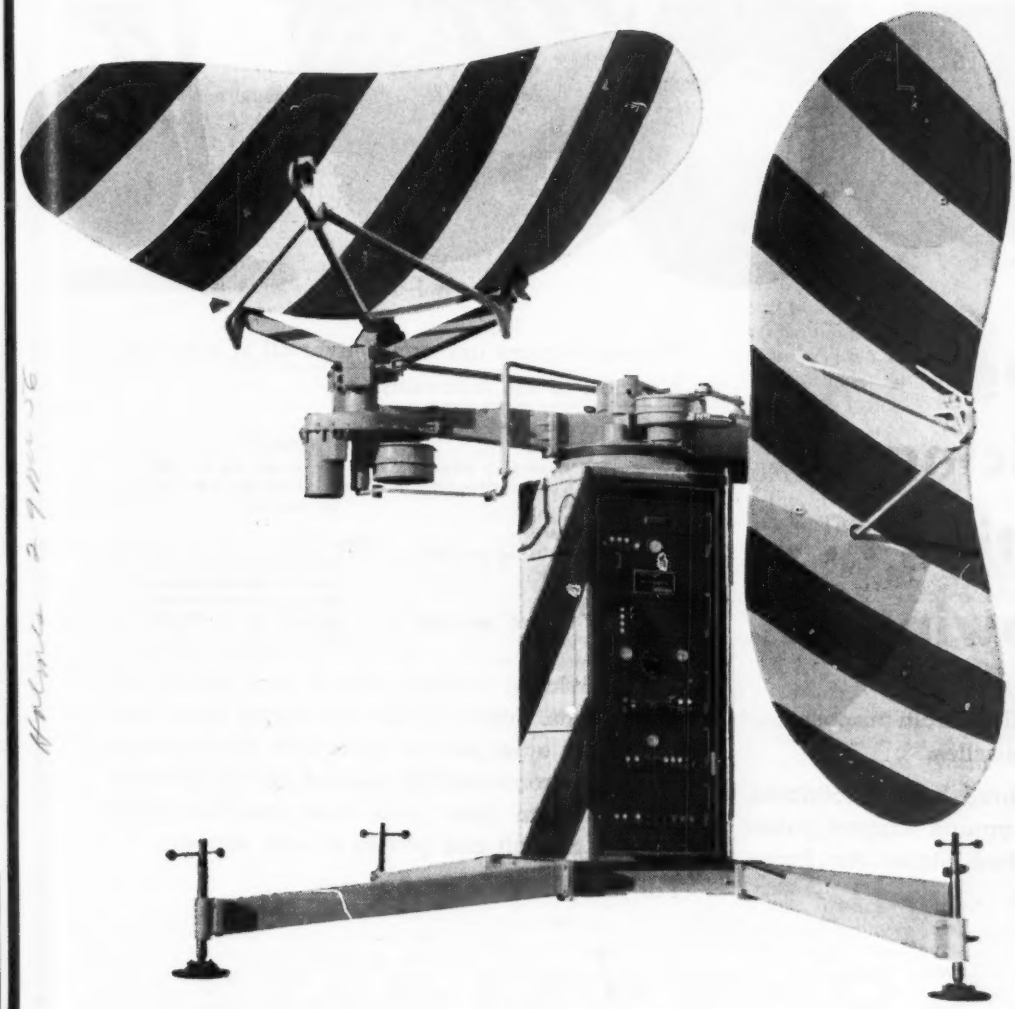

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RENDEZVOUS

Where the Gang gets together

TRUST FUND FOR ROBERT: During World War II, while they were in Norfolk, the 89th Depot Repair Sqdn. of the United States Army Air Force befriended an orphan boy, named Robert John Hunt, who was living with his grandparents at 143 Heigham Street, Norwich, Norfolk, England. In June 1944 the Squadron very generously subscribed a sum of 100 pounds to be held in trust for his welfare, education and general benefit.

The Norwich City Treasurer and I were appointed as Trustees to administer this fund. My co-trustee has since died and I am now acting as sole trustee. The fund was created for the period of the boy's minority and the Trust Deed expressly states that the unexpended residue of the monies shall be paid to Robert on his attaining the age of twenty-one. He was twenty-one on November 23, 1954, and I propose, in accordance with the terms of the trust deed, to liquidate this fund and pay to Robert Hunt the monies now held in the Trustee Savings Bank. The balance is approximately fifty pounds.

Now that this Trust has run its course I thought it would be right and courteous to render some account of my Trusteeship to those who were responsible for creating the fund. I wonder whether it is at all possible, with your help, to trace the present whereabouts of this Squadron or its Adjutant who was with the Squadron in Norfolk during 1944 when the collection of monies was made on behalf of the boy concerned? *J. W. Beeson, Director of Education, City of Norwich, Norfolk, England.*

43D WEATHER WING: I would like for all you fellows who were members of the 43d Weather Wing during the period June '46-December '46 to get in touch with me. *Norman "Gabby" Gibbons, Box 51, Purdy, Mo.*

AZORES FRIENDS: During World War II I was appointed by the Portuguese Government to prepare the air base in the Azores for the Allied forces. Among the many American officers there were Brig. Gen. Albert D. Smith and Maj. Edward L. Yuravich. I have not been able to contact them through official channels and wonder if some reader can tell me their present addresses? *Maj. Gen. Humberto Delgado, Chief, Portuguese Military Mission, Embassy of Portugal, 2125 Kalorama Rd., N.W., Washington, D. C.*

To be sure your Rendezvous item appears in the March issue, we should have your request by January 15.—THE EDITORS.

AIR MAIL — CONTINUED

Ask the good Sergeant to read AFR 35-14, paragraph 26b(3)—Overseas Bar for all personnel for each six months of duty outside the Continental limits of the United States during World War II (dates, 7 Dec 41 to 2 Sep 46, incl). I'm suspicious of anyone who makes a remark like the Sergeant did about five bars. Also, the slang remark "Hershey Bars," to me, is in the same category as "Fruit Salad." and doesn't seem to be very militarylike. I have eight overseas bars and earned every one of them.

I also have been in the service for a while, twenty-three years to be exact, and I'm very uniform conscious as to fit, neatness, etc. Occasionally someone asks how to get the best shine, and I don't mind revealing my secret, "good polish and elbow grease."

M/Sgt. Lyle W. Stevens
Van Nuys, Calif.

Gentlemen: Reference page 81, AIR FORCE Magazine, November 1954, article written by M/Sgt. Clifford entitled "Dress Right!"

From one salty non-com to another; I cannot, for the life of me, locate AF Letter 35-5, nor AF Letter 35-47 which you quote as authoritative sources of uniform information. These letters are not indicated in the index, old or current. How about an explanation. I'm puzzled.

M/Sgt. Everett F. Voss, Jr.
Columbia, Mo.

Gentlemen: Into every life, no matter how tranquil and well regulated, a little rain must fall. I got your letter this morning and along with it the salty comments of Master Sergeants Stevens and Voss. I must confess to a slipshod job of looking at the Regs. If I remember rightly, I did the job by remote control—I had no set of regulations where I was erecting the article (at the temporary Orderly Room at March AFB) so I called the first outfit I found in the phone book. That is where I got the dope—and I'm a dope for not looking the matter up myself.

A salaam to both M/Sgt. Lyle W. Stevens and M/Sgt. Everett F. Voss, Jr., and a thank you for calling a tune I should have known by rote.

However, the figure $250, which was my estimate of the cost of outfitting an airman, is not too far off when one considers it not *unlikely* for a man to buy an extra coat, or extra trousers, or a top coat, etc. Spendthrifts have been known to do this. Sergeant Stevens is absolutely right when he says a man can be draped for $199.15—in arithmetic he gets 100 percent, in reading, I'm not so sure. To Sergeant Stevens, I recommend rereading the words in the disputed paragraph. For convenience, let me quote ". . . *roughly* about $250 worth, including summer uniforms and fatigues."

I also said ". . . the Air Force allows $72 a year for maintenance." Sergeant Stevens says, ". . . allowance is $6.00."

To continue, let us go to page 86, column three (at the top) and look at the sentence which ends the paragraph, "Be *suspicious* of anyone wearing more than five." What I said goes, Sarge. You have eight and you earned them. But have you ever seen a downy cheeked lad supporting a whole Jacobs' ladder of Hershey bars (there, I said it again) and he just simply isn't old enough to have been in WW II? No one is challenging Sergeant Stevens' right to wear his overseas bars—just trying to put the spotlight on fakers who put everything on the uniform. Also, I'm not suggesting that Sergeant Stevens is not uniform conscious, nor am I belittling his twenty-three years' service.

About my use of the term, "Hershey Bars," I can only say that I am not one to stem the dike with my finger. The word is a part of the lexicon, as is "Fruit Salad," militarylike or not.

My remarks on the Windsor knot, unfortunately, were not clear. The knot I denounce is the super-Windsor, the kind displayed by hipsters and the like. As a matter of fact, I wear a Windsor, but I did not know it until the other day when one of the men in the detachment pointed this out to me. As for AFR 35-14 not mentioning the knot, either pro or con, this is only to be expected, since regulations cannot hope to stay abreast of sartorial developments. If I recall, the Reg does not denounce wearing a topper, spats and a cane.

And to salty Everett F. Voss, Jr., I say, "Give up your search of the regs for AF Letter 35-5 and AF Letter 35-47. Both of these regulations exist in the mind of Sergeant Clifford only. You'll only hurt your eyes, boy."

M/Sgt. Frank J. Clifford
Philadelphia, Penna.

Downed American Plane

Gentlemen: I don't know how close the following letter comes to representing the majority of AFA members' feelings, but thought I'd send a copy on to you anyway.

Millard Harmon
Auburndale, Mass.

The Hon. Harold E. Talbott
Secretary of the Air Force
Washington, D. C.
Dear Sir:

I am sure that the recent shooting down of an American plane by Russian flyers has concerned all America.

There are, of course, the parents of the young man who lost his life. Their sorrow at this time knows no bounds.

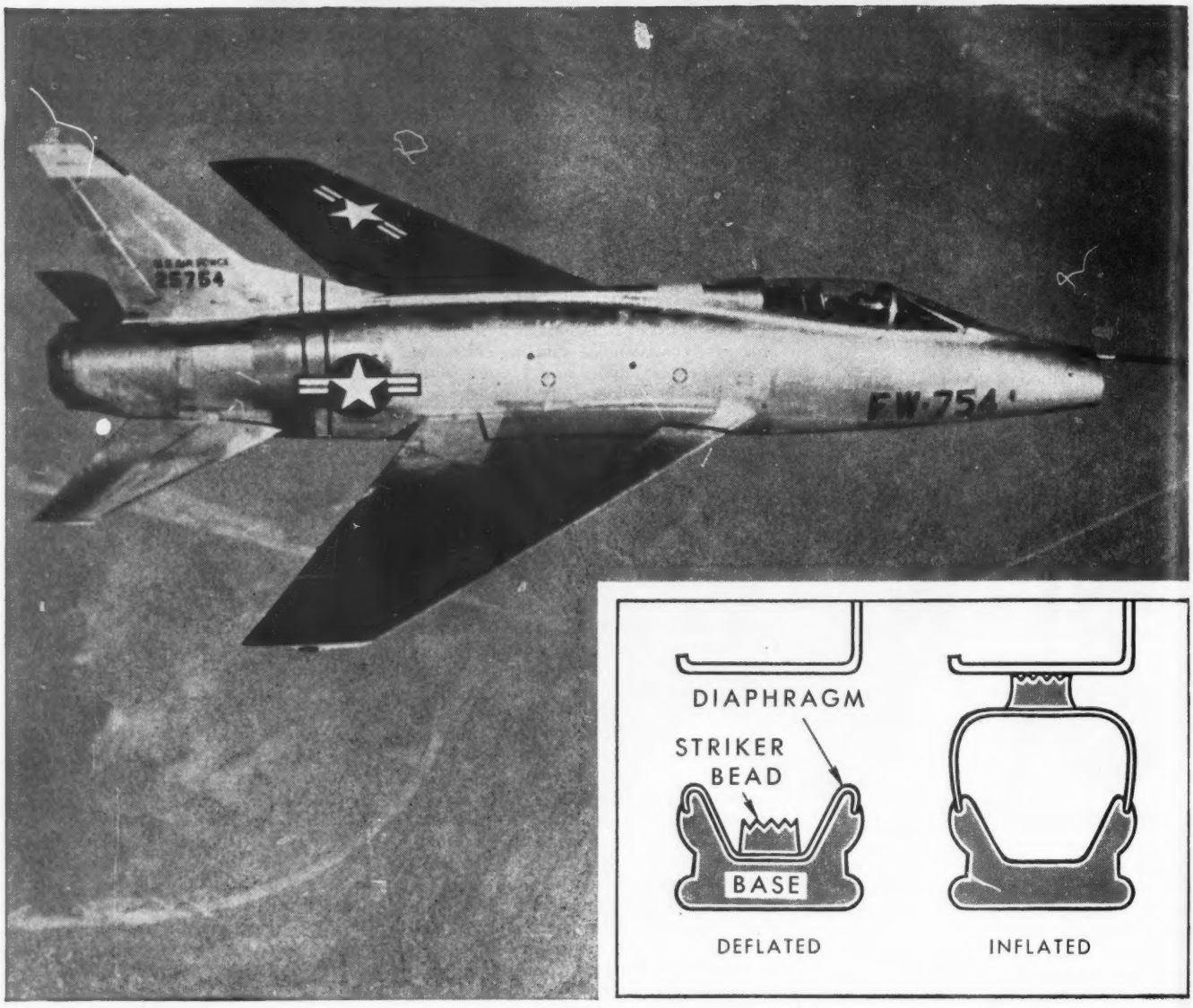
There is, in addition, the loss of prestige by the United States on an international level.

While these two concerns are of paramount importance, there is an additional concern that I feel personally at this point. Close to a million dollars worth of taxbought equipment has been destroyed by enemy action without a single bullet being fired in its defense.

It is my hope that you will replace as soon as possible such men as were in charge of the flight with men who will open fire upon any MIG within range—regardless of whether they are involved in a threatening pass or not.

Millard Harmon

RESEARCH KEEPS **B.F.Goodrich** FIRST IN RUBBER



Prevents blowouts 8 miles above ground

BUBBLE type canopies on fast military planes like North American's Super-Sabre had to be safely pressurized at altitudes of 8 miles or higher. Ordinary inflatable seals between the bubble and cockpit would often blow out from the effect of low pressures on the outside, high pressures on the inside.

B. F. Goodrich engineers were called in on the problem. A really effective seal, they believed, should operate with low pressure and stretch very little or not at all. Less stretch would mean less strain. They worked out a seal with a U-shaped solid rubber base. A rubberized fabric diaphragm nested inside the base simply *lifts* when inflated. (See diagram above). It works like blowing up a paper bag—low pressure gives full expansion with practically no stretch. Dangerous stretching of tube wall (like blowing up a toy balloon) is eliminated.

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AIR FORCE

THE MAGAZINE OF AMERICAN AIRPOWER

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FEATURES

Our Captured Flyers
A SITUATION REPORT 16

What Would Conscription Do to Our Airpower?
BY JOHN F. LOOSBROCK 23

Sonic Boom—Now You Hear It . . . Now You Don't
BY LEE KLEIN 26

Our Arctic Underground 28

How to Be an SOB
BY M/SGT. FRANK J. CLIFFORD 32

Reserves Tenting on Old Camp Ground
BY EDMUND F. HOGAN 47

Learning How to Stay Loose
BY CAPT. BERNARD R. MARSH AND DR. DONALD W. COX 62

DEPARTMENTS

Air Mail 4
Rendezvous 7
Airpower in the News .. 10
Wing Tips 14
Shooting the Breeze ... 18
The Ready Room 48
Tech Talk 53
AFA News 56
Index to Ads 59

THE COVER

The two characters on our cover this month, plodding through the snow of the Arctic Ice Cap, are "sub-zero heroes" of the AF's Northeast Air Command. They're part of the detachment that mans this far northern outpost, where the building literally sink out of sight and where, part of the year, your front door is a hatch—straight up.—See page 28.

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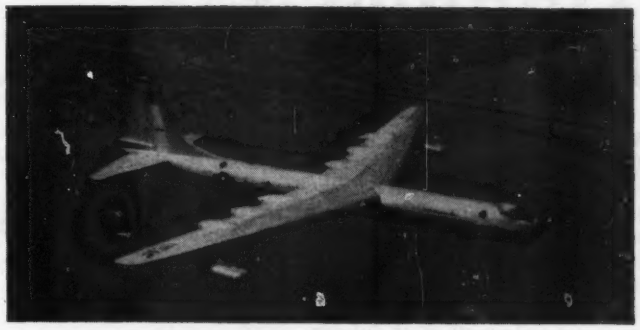

Airpower to Invade San Francisco in '55.

YES, for five days—August 10-11-12-13-14, 1955—San Francisco will be invaded by airpower. Those are the dates of the Air Force Association's ninth annual National Convention and Reunion. Now that the holiday season is almost over, why not make plans for the holiday of your life—a vacation in fabulous San Francisco, by the Golden Gate. Join your friends at the 1955 AFA Convention & Reunion.

Ten San Francisco hotels have set aside rooms for the AFA Convention. Reservations must be made through the AFA HOUSING BUREAU in San Francisco—not AFA in Washington. List first- and second-choice hotels. A $10 deposit is required on each room, and will be credited to your account. Room requests for the Fairmont will be acknowledged but not confirmed until April 1 in order to assure AFA officials and delegates maximum accommodations at the headquarters hotel. Reservations for other AFA hotels will be confirmed upon receipt by the AFA HOUSING BUREAU.

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AIRPOWER IN THE NEWS

■ **Harold Macmillan,** England's Minister of Defense, told the House of Commons that **"drastic reductions" in the anti-aircraft organization** would soon be made in Britain. The announcement was an acknowledgement by the British that fast, long-range aircraft coupled with nuclear weapons had made the present anti-aircraft defense system obsolete. Mr. Macmillan said that most of the 50,000 men who have been on anti-aircraft duty will be switched to other programs, such as the **guided missile method** of defense.

■ On this side of the Atlantic, in a speech at the **National Press Club** in Washington, **AF Secretary Harold E. Talbott** also pointed out the **limitations of defense.** "Our fastest jet interceptors will be useless," he said, "against the fast long-range missiles now being developed." While not suggesting an abandonment of the air defense concept, and expressing confidence that the AF would build more and better interceptors, Secretary Talbott pointed out that our **survival depends more on the offense** than on the defense. He called our Strategic Air Command an "extremely powerful deterrent," but said we may have to make it even stronger.

■ **The Air Force Museum** at **Wright-Patterson AFB, Ohio,** has appointed **Miss Blanche Stuart Scott** to conduct a nation-wide search for aviation mementos. Miss Scott is one of the first women ever to fly an airplane—she soloed at Hammondsport, N. Y., in the fall of 1910 after being instructed by **Glenn Curtiss.** She said she would begin her search for historic mementos at Hammondsport. The material is being gathered for the AF museum at Wright-Patterson, twenty or thirty other museums the AF plans to set up, and the **Smithsonian Institution.**

■ Early in December, the Army dedicated a new **"heliport"** at **Fort Eustis, Va.** The first military airport built exclusively for helicopters, the new facility is shaped like a wheel with taxiways around its rim. The field has been named **Felker Heliport** in honor of **Warrant Officer Alfred C. Felker,** an army helicopter pilot killed in February 1953.

■ AWARDS . . . In the **White House Rose Garden, Maj. Charles E. Yeager** and **Miss Jacqueline Cochran** received the **Harmon International Trophies** (See "Airpower in the News," August '54), from **President Eisenhower.** High government and industry officials were on hand for the occasion, honoring Yeager for his record 1,650-mph flight in the Bell X-1A on December 12, 1953. Miss Cochran received the Harmon Avia-

(Continued on page 13)

President Eisenhower congratulates Maj. Charles E. Yeager after presenting Harmon International Trophies to him and Miss Jacqueline Cochran, left, at a White House ceremony.

Wide World Photos, Inc.

Fifth Birthday Salute to the Air Research and Development Command

Lt. Gen. Thomas S. Power

ON January 23, 1950, the late Gen. Hoyt S. Vandenberg initiated a reorganization of Air Force research and development activities, designed to reverse the trend of steady deterioration in the quality of American airpower. General Vandenberg had inherited from his predecessors, Generals Arnold and Spaatz, the explosively demobilized fragments of what had been World War II's finest air fighting machine. And during the uncertain years following World War II, the strategic arm of this Air Force, equipped with atomic weapons, alone had guarded the security of the Free World. Vandenberg had sought desperately and successfully to strengthen SAC in the face of mounting Soviet strength, even as Defense budgetary hatchetmen progressively reduced over-all Air Force resources. Under these circumstances, something had to "give," and it was not surprising that Air Force research and development activities were among those that were unavoidably compromised.

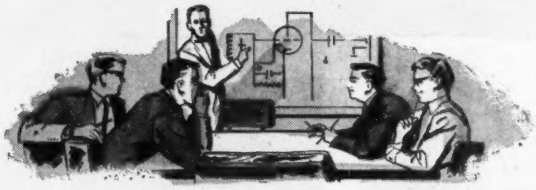
Recognizing the long-term danger of losing the qualitative weapons race to the Soviets, Vandenberg sought the advice of the Air Force Scientific Advisory Board and of his old World War II boss, Jimmy Doolittle. Armed with their recommendations, Vandenberg ordered into effect a basic reorganization of Air Force research and development activities.

Vandenberg selected Lt. Gen. David M. Schlatter, as first commander of the Air Research and Development Command. Since then Lt. Gen. Earle E. Partridge, Lt. Gen. Donald L. Putt, and now Lt. Gen. Thomas S. Power, have followed General Schlatter at the helm of ARDC.

Vandenberg's reorganization provided the framework and, soon after its initiation, the Korean war provided the impetus in the fight for more adequate R&D resources. Korea saw the slender margin of American qualitative superiority in the Air Age maintained by a single airplane—the F-86 Sabrejet, designed largely on the basis of German-invented sweepback.

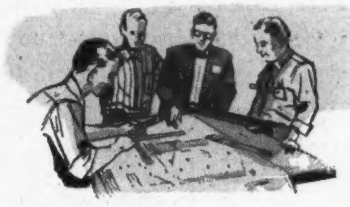
In spite of the initial apprehension of many industry spokesmen, ARDC is steadily proving its worth. Initial confusion in the Joint Project Offices at Wright AFB has been eliminated, with streamlined Weapons Systems Offices replacing the original JPOs. ARDC now initiates and manages R&D projects to the point of production decision, with AMC taking over at that point and continuing throughout the inventory life of a piece of equipment. After the production take-over, ARDC continues to furnish AMC's engineering support.

From his headquarters in Baltimore, General Power commands ten research, development, and test centers. These are: The Wright Air Development Center, Wright-Patterson AFB, Ohio; AF Missile Test Center, Patrick AFB, Fla.; AF Special Weapons Center, Kirtland AFB, New Mex.; Rome Air Development Center, Griffis AFB, N.Y.; AF Flight Test Center, Edwards AFB, Calif.; AF Cambridge Research Center, Laurence G. Hanscom Field, Bedford, Mass.; AF Armament Center, Eglin AFB, Fla.; Holloman Air Development Center, Alamagordo, N. Mex.; Arnold Engineering Development Center, Tullahoma, Tenn.; and the AF Personnel and Training Research Center, Lackland AFB, Tex. We salute ARDC on its fifth birthday, and with it the ARDC-AMC-Industry team upon which our air superiority depends.

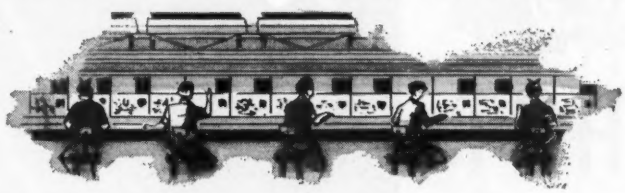


Research

Development



Design



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trix Trophy for being the first woman to fly faster than sound. She said that she hoped to get permission to fly one of the newer jets at twice the speed of sound . . . **Hughes Aircraft Company** recently presented a trophy (see cut) to the personnel of the Yuma County Airport for their work in staging the first **USAF air-to-air rocketry meet** last June. Representatives of Hughes (manufacturers of radar rocket and gunfire control systems) presented the trophy to **Col. Robert F. Worley,** commander of the base. . . . **Dr. Theodore von Karman,** Chairman of the AF Scientific Advisory Board, has been honored twice. On December 17 he was presented the **1954 Wright Brothers' Memorial Trophy** by the **National Aeronautic Association** for his "significant public service as a civilian of enduring value to aviation in the United States." Also in December, the **American Rocket Society** named Dr. von Karman recipient of its first **Astronautics Award.** The seventy-three-year-old scientist has been an advocate of space flight study since 1930 when he became director of the **California Institute of Technology's Guggenheim Aeronautical Laboratory.** Dr. von Karman is serving in Europe as Chairman of the **Advisory Group for Aeronautical Research and Development (AGARD)** under NATO (see AIR FORCE, May '54) . . . On November 16, **Dr. Enrico Fermi** was named winner of a $25,000 award from the **Atomic Energy Commission** for his "meritorious" contributions in the field of atomic energy. Two weeks later, the famous Italian-born nuclear physics pioneer died of cancer at the age of fifty-three.

■ STAFF . . . **Brig. Gen. Fred M. Dean** was recently named vice commander of FlyTAF, replacing **Brig. Gen. R. L. Waldron** who went to FEAF. Thirty-seven-year-old General Dean is the youngest general in the armed forces. He had been commander of Webb AFB, Tex. . . . **Maj. Gen. Howard G. Bunker** arrived at Norton AFB on November 15 to assume duties as Director of Readiness and Materiel Inspection in the Office of the Inspector General, USAF. He succeeded **Maj. Gen. Thomas O. Hardin** who retired . . . **Maj. Gen. Gordon A. Blake,** USAF Director of Communications, was recently appointed Air Force representative on the Executive Committee of the Radio Technical Commission for Aeronautics . . . On February 1, **Maj. Gen. George G. Finch** will take command of the Fourteenth AF at Robins AFB, Ga. (see "Ready Room," page 48). He will succeed **Maj. Gen. Charles E. Thomas, Jr.,** who is retiring January 31. General Finch has been Deputy Commander for ANG affairs at ConAC, Mitchel AFB, N. Y. . . . **Maj. Gen. John M. Hargreaves** was retired in grade as a brigadier general on November 30. . . . Maj. Gen. Merrill D. Burnside is new Director for Maintenance and Engineering at Wright-Patterson AFB and not deputy director as reported in this column last month. Deputy director is Brig. Gen. W. W. Wise who will retire the first of the year . . . **Brig. Gen. Charles A. Lindbergh** finished a tour of duty in Hq. USAF with the office of the Special Assistant to the Secretary for Research and Development.

■ From the Personnel Office . . . A proposed **"separation from family" allowance,** expected to become effective this month, should ease the burdens of a married officer or airman separated from his family. The allowance will apply when men are assigned to foreign posts where bachelor-type **government quarters are not available,** such as small missions or persons on attaché duty. Under present policy, a single man stationed at such a post receives the appropriate basic allowance for quarters, plus a per diem allowance (where authorized) to cover the actual cost of rent, utilities, and other incidental expenses. A married man at the same base, without his dependents, receives the same allowances but has the **additional burden of maintaining a residence for his family** in the States. The new allowance, if approved, would amount to $3.40 per day for officers and $1.90 per day for airmen in addition to per diem allowance for quarters presently authorized.

■ The AFs office of the Director of Civilian Personnel recently outlined procedures for the **procurement of civilian workers for the Air Force Academy.** The recruitment for the lower grade positions will normally be **limited to Lowry AFB,** Colo. (temporary home of the Academy), **and the Denver area.** Recruiting will be extended to other areas only if this effort is unproductive. For positions at the GS-9 level and above, informational vacancy letters will be sent out from Lowry to all ZI Air Force installations.

Col. Robert F. Worley, Yuma Air Base Commander, accepts a trophy on behalf of his personnel from Hughes Aircraft Co. representatives D. R. Knickerbocker and John W. Rowe.

■ **Chapel attendance in the Air Force** seems to be reflecting the **increased religious interest** in the United States. Figures for fiscal 1954 show an **attendance of more than 10,000,000** at base chapels—nearly 300,000 more than the previous year. And these figures do not include the thousands of airmen and their families who participate in church affairs in local communities. About **1,000 chaplains are on active duty** with the Air Force—headed by Maj. Gen. Charles I. Carpenter, Chief of AF Chaplains.

■ Under a **new reenlistment policy,** the AF recently announced authorization of a **"short discharge"** which permits an airman to separate and immediately reenlist at any time after he completes **half of his current enlistment** or active-duty tour. Under the new regulation, an airman electing a "short discharge" is entitled to collect his **reenlistment bonus,** except for those who have completed twenty years of service or who have received the maximum ($2,000) authorized in bonuses. Since an individual's desire to reenlist tends to fluctuate, the new regulation **should boost reup rates** by spreading the opportunity to reenlist over a period of months.

■ Duty assignments with **Air Reserve Centers and the Air Reserve Flying Centers** will be made on the basis of application in the future. A proposed regulation—scheduled to appear this month—outlines procedures to be followed when requesting this duty. Airmen may give their **preference of location** and this will be considered along with the man's other qualifications when selections are made for the three-year tours of duty at the various Reserve Centers throughout the US. To be eligible, the man must be staff sergeant or above, must have five years of active military service, must have an FSSD (Foreign Service Selection Date) not earlier than eighteen months from date of application (except for airmen with twenty years of service), must have a high moral character, and have no active application for other types of special assignment (except ANG). Airmen overseas may apply, but not if it would shorten their foreign tours.

■ Air Force members stationed at isolated bases are now authorized to make **recreational off-duty air trips** to populated areas. Space-available, no-expense trips will be provided to airmen of all grades, officers, warrant officers, and civilians assigned to the AF. Dependents stationed in the isolated areas are authorized to accompany their sponsor on these trips.—END

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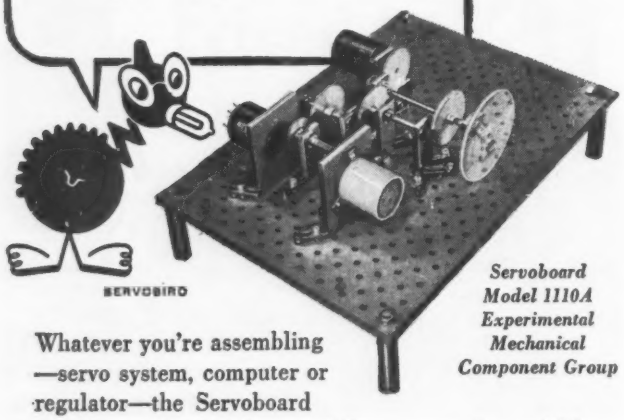

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wing tips

By Wilfred Owen

Hawaiian Airlines, largest of US territorial lines, has flown for twenty-five years without a fatality.

° ° °

There are fourteen local service airlines in the United States serving 440 cities in forty-two states. The average trip from take-off to the next landing is seventy-four miles. In Washington state twenty of the twenty-six cities with airline service depend exclusively on the local service lines.

° ° °

The airlines of the following countries are equipped 100 percent with US-built planes: Brazil, Ceylon, Colombia, Cuba, Cyprus, Finland, Greece, Iceland, India, Israel, Italy, Japan, Mexico, Venezuela, Portugal, and Yugoslavia.

° ° °

The only two nations that do not operate any US-built planes in their airline fleets are Iraq and Nigeria.

° ° °

A British Overseas Airways freighter from Singapore landed at London recently with a crew of specially trained attendants for what is said to have been the closest thing to Noah's Ark

yet seen on the world's airways. The flight included monkeys, storks, cobras, mongooses, hyenas, bear cubs, a snow leopard, and a fully grown tiger.

° ° °

During the first full year of operation Belgium's Sabena Airlines carried 18,000 helicopter passengers on its routes to France, Germany, and the Netherlands.

° ° °

The possibilities of cutting the price of private planes through mass production are indicated by a Ford Motor Company estimate that production of 200 Model Ts to commemorate Ford's fiftieth anniversary would have cost between $50,000 and $75,000 per car—compared to a factory price of $295 back in the twenties when volume was high.

° ° °

Western Airlines, America's oldest continuously operated airline, is the only major US air carrier with headquarters on the West Coast.

° ° °

Ladybugs are being moved by air express from Southern California to West Africa to combat mealybug infestations in the coca crops. The ladybugs, who travel in groups of 1,000 to 5,000, must be moved as rapidly as possible to hold down the mortality rate. This is accomplished by using Los Angeles Airways helicopter service from suburban Fontana to the Los Angeles Airport, thence to New York. The bugs transfer to BOAC or Air France for the overseas trip.

° ° °

The number of planes operated by American business concerns is seventeen times greater than the nation's fleet of aircraft in domestic airline service.

R C A T's

Radio Controlled Aerial Targets—called R-CATS—are now the standard targets used in gunnery training of fighter pilots and anti-aircraft and airborne gunnery crews of the Armed Forces. These drones are maneuvered from the ground to simulate the attacks of an enemy; aloft they are an inexpensive substitute for "the real thing". Precision-built R-CATS are supplied in quantity to the U. S. Army, Navy, Air Force, and National Guard by RADIOPLANE COMPANY. They are one more product of the versatile Northrop team which has built the famous long-range Scorpion F-89 interceptors, Snark XB-62 pilotless bombers, range finders for Army tanks, and other materiel constructed to rigid specifications of the U. S. Department of Defense.

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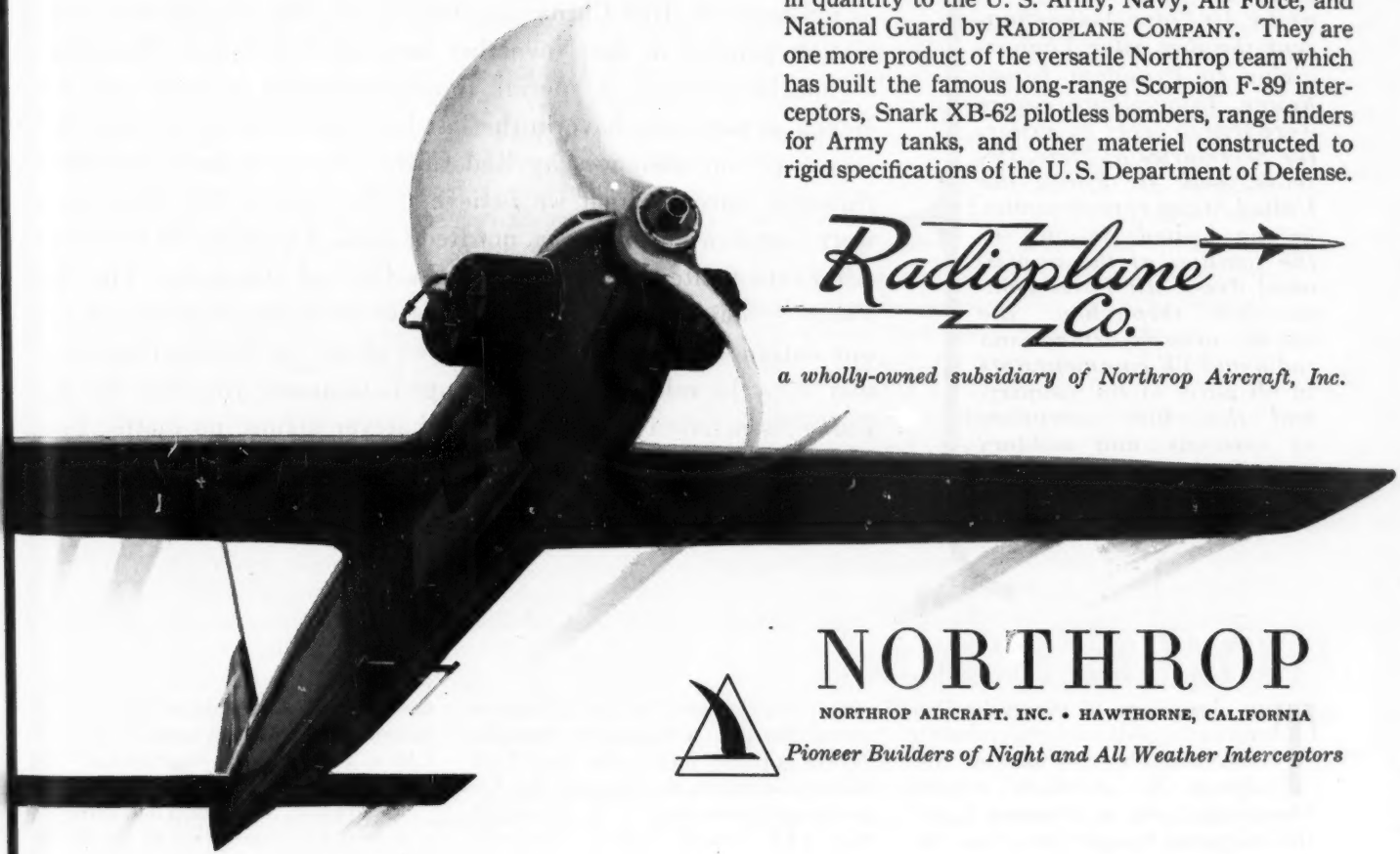

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A SITUATION REPORT

Our Captured Flyers

This was the telegram that John R. Alison, President of the Air Force Association, sent the day after Thanksgiving to President Eisenhower. Information copies were sent to every governor, the Secretaries of State, Defense, and Air Force, the United States representative to the United Nations, to the families of the imprisoned flyers, Air Force commanders throughout the world, newspapermen and radio and TV commentators in all parts of the country, and the chief executives of veterans' and military organizations.

"The Air Force Association has been deeply concerned about United States Air Force personnel and other Americans still held as prisoners by Red China. As evidence of this concern the Association printed in the November issue of AIR FORCE Magazine, its official journal, a special report including pictures on the eleven airmen who have in the last few days been given long and severe prison sentences by Red China. We have been informed through sources which we believe to be correct that these men were shot down over Korea, not Red China. The motto of a famous Air Force fighter group is 'We Take Care of Our Own.' The Air Force Association believes that this is an appropriate motto for our nation at this time. We know you share our feeling that these men must be released. This message is to assure you that the Air Force Association stands behind whatever action, no matter how strong, you may take to obtain the release of every American held in the prisons of Red China. We believe time is of the essence."

THE chronology of events leading up to the above wire begins with the November '54 issue of AIR FORCE. In an article entitled "American Eagles in a Bamboo Cage" this magazine brought into focus for the first time publicly the plight of fifteen American flyers being held as "political prisoners" in Red China in contravention of established rules of warfare and of civilized practices.

On November 24, Communist China itself affirmed our premise. With great bombast Peiping announced that eleven of the fifteen US airmen had been sentenced to prison terms ranging from four years to ten years. Two American civilians also were sentenced, one to twenty years, the other to life.

AFA's President, after lengthy consultations with Association officials throughout the country, defined AFA's stand.

Reaction was immediate—and widespread. The complete text of the telegram was inserted in the *Congressional Record*. Newspapers throughout the country, such as the *New York Times* and others, front-paged the Association's guarantee to the President that AFA "stands behind whatever action no matter how strong, you may take."

Virtually every person who received the wire replied. Their comments were a reflection of the national dilemma to which the original AIR FORCE article referred.

Congressional comments, by and large, reflected sober deliberation of a difficult problem. Almost to a man, Congressmen noted their "grave concern" over this explosive situation. Noticeable, too, was the fact that they looked to the Administration for a guide to extrication from the dilemma.

President Eisenhower, while rejecting the suggestion of a blockade, promised every action short of war. Secretary of State Dulles fired a strong protest to Red China. Subsequently, the General Assembly of the United Nations voted 47 to 5 to condemn Red China for unjustly imprisoning the flyers.

Meanwhile, Mr. Alison had directed a second communication to the President. (See opposite page.) The solution to our national dilemma, to obtaining the release of our imprisoned airmen, called for "extraordinary measures" by our government, he said.

He pointed out AFA's belief that decisive action by our nation need not necessarily lead to general war and asked the President to adopt a policy of resolute firmness.

We present these AFA statements to the readers of AIR FORCE Magazine in the hope that they will focus continued attention to the plight of fighting men who have been required to accept more than legitimate military risk; and in the further hope that aroused American public opinion will generate the kind of positive action necessary to free our men.

The President
The White House
Dear Mr. President:

December 3, 1954

On November 26 it was my privilege, in behalf of our membership, to send you a telegram pledging the support of the Air Force Association in whatever action you may take, no matter how strong, to obtain the release of Americans held in the prisons of Red China.

This letter is to further assure you of our support, and to reassert our belief that the continued imprisonment of these Americans presents an unbearable situation, that they must be released.

As an airpower organization, we have been particularly concerned over the fate of United States Air Force personnel held as political prisoners by the Chinese Communists. My telegram to you expressed this concern. I assure you that it is of long standing.

Speaking through the pages of AIR FORCE Magazine, our official journal, we have repeatedly exposed and protested the Communists' exploitation of legitimate prisoners of war for political and propaganda purposes.

In the November 1952 issue of our magazine, at a time when apathy was rife on this subject, we published the first public accusation that the Communists, through barbaric brain-washing techniques, had extorted false confessions of germ warfare from captured Air Force personnel.

In February of 1953 we published a special report, subsequently reprinted in the *Reader's Digest*, which explained publicly for the first time how the Communists were exploiting American prisoners of war through devious propaganda directed at their next-of-kin here on the home front.

In August of 1953, at our annual Convention, we adopted a resolution which called public attention to the fact that airmen of the United Nations were being deliberately withheld, for political reasons, in the then current exchange of prisoners of war in Korea; at the same time, our Association firmly endorsed, by resolution, the stand of Secretary Dulles that all United Nations prisoners must be returned by the Chinese Communists.

That this position of our government has been ignored and flaunted by the enemy is now an obvious and distressing fact. Indeed, it was with a feeling of shame that we published, in the November issue of our magazine, the first consolidated report on fifteen United States Air Force flyers, combatants in the Korean war, who were still being held as diplomatic pawns by the Chinese Communists. Eleven of these men have since been subjected to severe prison sentences and their fate, along with that of two other sentenced Americans, has become a national issue.

This, Mr. President, was our record of protest leading up to my telegram to you of November 26. I have cited the record to emphasize the depth of our feeling about the Americans now imprisoned in Red China.

As men who have experienced combat, especially those of us who have been captured by the enemy, we are well aware of the risks taken by the military man. But the problem at hand involves more than legitimate military risks. It concerns political imprisonment on trumped-up charges. It calls, we believe, for extraordinary measures by our government. We doubt that such measures can be confined to diplomatic notes alone in dealing with a regime which has so consistently and flagrantly violated all rules of civilized international conduct. We fear that if this Communist regime is permitted to continue the degradation of our fighting men, it will weaken our national strength and lead to further enslavement of the peoples of Asia.

In the current Statement of Policy of the Air Force Association we observe that sooner or later, in the face of continued Communist pressure, "the line of aggression must be drawn and the issue joined."

We support this policy in the conviction that only through resolute firmness on the part of the United States can the free peoples achieve peace with honor; that firm and decisive action by our nation need not necessarily lead to general war.

In the false imprisonment of Americans by Communist China we find an issue which challenges basic principles upon which our country was founded and saps the lifeblood of freedom.

We commend your interest in the release of these unjustly imprisoned American citizens and your public statements in this regard. We assure you that firm action to meet this critical situation will receive the support of the Air Force Association and, we believe, the support of other Americans.

Respectfully yours,
John R. Alison
President

SHOOTING THE BREEZE

It isn't often we make a special editorial bow in the direction of a new subscriber. But we feel it's news when the address stencil reads "Field Marshal Viscount Montgomery, Headquarters SHAPE, Paris, France." The Field Marshal's deep and vocal interest in airpower was still making headlines as we went to press.

On the eve of his recent visit to the United States, we managed to get hold of a copy of a speech he had delivered before the Royal United Services Institution in London. We were so impressed that we tore up the December issue, which was almost on press, to make room for his views. He said, substantially, what we've been maintaining about airpower all along.

In this country he strengthened his remarks, before such varied forums as a gathering of scientists at the California Institute of Technology and a group of college students at Hunter College in New York.

His strong airpower views take on added significance in light of a report that he personally worked on the original speech for several months. It was not an "off-the-cuff" affair.

"Man, that reenlistment bonus makes a beautiful stack of silver!" M/Sgt. Joseph Dorazio, a veteran of 15 years, signed up for six more at Nellis AFB, Nev. and collected in silver dollars. He starts new tour at Otis AFB, Mass.

It is also reasonable to believe that Montgomery's views are in substantial agreement with those of his boss at SHAPE, US Army Gen. Alfred M. Gruenther. Evidently NATO planning is undergoing considerable change.

☆

Last year our Ed Hogan delivered himself of a two-part article entitled, "Physiology of Flight." It had to do with high-speed flight at high altitude, and particularly with the dire consequences that stem from lack of oxygen. Now, the Air Force is getting a little touchy on the subject of high-altitude flying in jets. You go through an altitude chamber at least once every three years. Hogan's period of grace having expired seasons ago, he found himself one weekend recently going through the altitude chamber at Mitchel Air Force Base with a group of D.C. Air Guardsmen.

The Physiological Training Unit, which operates the altitude chamber at Mitchel, is headed by 1st Lt. Roger Tremblay, a former Richmond, Va., school teacher who was recalled with Richmond's 149th ANG Squadron for the Korean war back in 1951. He has been teaching physiological training since. Lt. Tremblay's unit exists primarily to serve members of the reserve components in ConAC's First Air Force, and our staffer tells us he'll match the Tremblay team against any in the country for know-how and ability.

They must be good to get Hogan through with a passing grade, although he allows that at one point in the chamber he wasn't sure whether Tremblay would give him his diploma. At 30,000 feet his oxygen hose was disconnected, and he was given a piece of paper containing a dozen or so questions. All he had to do was answer them. He got through his name, rank, and serial number all right but he had a helluva time dividing 286 by 13, and he never could think of four words that rhyme with tongue.

Tremblay and his team take about five hours for the full treatment, including lectures and demonstration of oxygen equipment. We pass on the information as a public service to any readers who might be contemplating a flight in a jet sometime soon. Be prepared to spend a day learning that you can't live without oxygen. Which is something we've known all along, Hogan to the contrary, notwithstanding and irregardless.

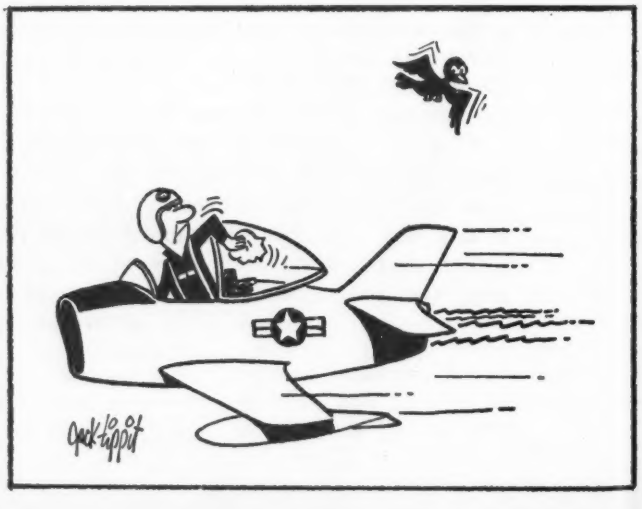
☆

The technological revolution in weapons is placing strange burdens on commanders' shoulders. We understand, for example, that Lt. Gen. William Tunner at USAFE has no range on which to train his Matador pilotless bomber squadrons. Yet he must include these squadrons in his war plans. As other missiles are phased into the Air Force, this dilemma will multiply. How, for example, do you train an intercontinental ballistic missile squadron? How dry can a dry run get?

☆

There is a belief, current in many circles, that the airpower education battle is all but won, that the American public is sold even though its leaders may not entirely be. We at AIR FORCE Magazine, of course, do not subscribe to this theory, largely we suspect, because if it were true our reason for existence, in our present jobs at least, would be highly questionable. As a result, one of the members of our editorial staff was heartened to learn the other day that there is still a vast untapped market for our

(Continued on page 21)



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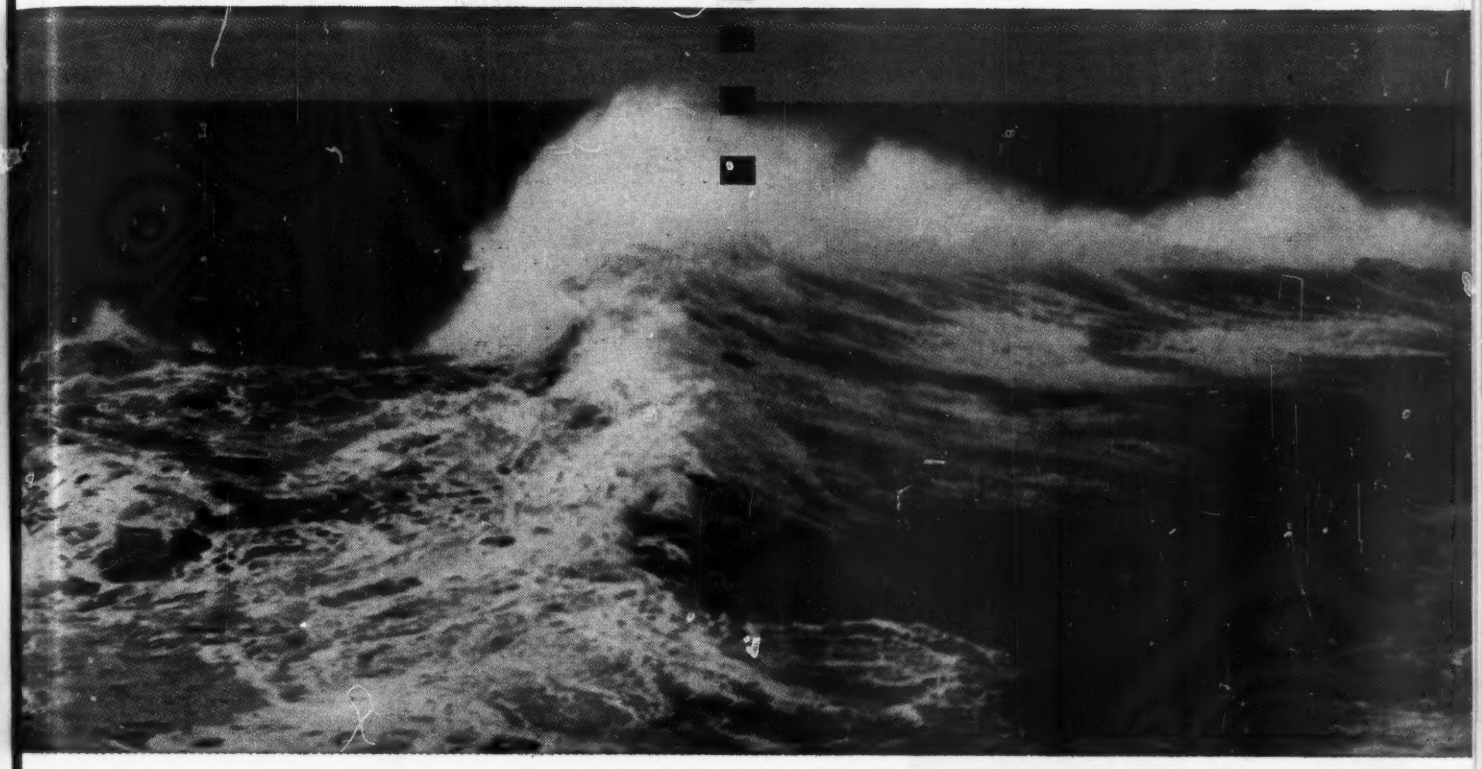

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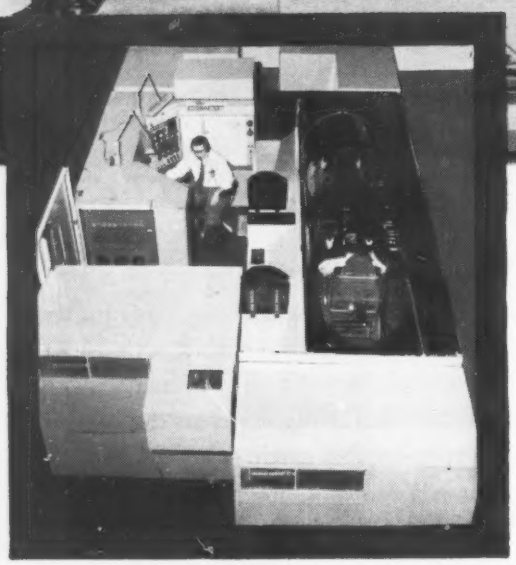

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product. He was waiting for a bus near his Maryland home when a kind soul offered him a ride to Washington. In the course of the usual exchange of pleasantries between chance acquaintances, the driver mentioned that he had recently attended a farewell cocktail party for a relative who was "going out to Colorado to work at that new Navy Academy." Our editor tactfully suggested that perhaps it was the new *Air Force* Academy which was meant. The reply—"Well, it probably does have something to do with the airport. He's been working for the airport in the Pentagon for quite a while." Our editor attacked his typewriter that day with renewed vigor, and we're still searching for that airport in the Pentagon.

☆

An industry press release about the launching of the *USS Forrestal*, the Navy's new super carrier, refers to it as "the world's largest worship" (*sic*).

☆

We get all kinds of requests for information, but we're just come through our first for a bit of shamus work. And we handled it rather neatly, too, we think. We call it the "Case of the Topcoat."

One of our members, the Deputy Assistant Secretary of Air Force for Reserve and ROTC Affairs, John I. Lerom, was attending a meeting in the Washington Aviation Club. He placed his topcoat in the cloak room and moved into the dining room. Except for Mr. Lerom's group, there was only one other couple in the room and Mr. Lerom noticed that the gentleman was sporting an AFA membership pin on his coat lapel.

When the meeting broke up, Mr. Lerom picked up what he thought was his topcoat and went home. It was unseasonably warm that night and the Air Force official had no need to don the garment. But next morning it was cool and Mr. Lerom decided to wear the topcoat to the office. You're so right; it was the wrong coat.

Mr. Lerom examined the coat and found a laundry mark bearing the name "Bryte." He recalled that the gentleman he had seen in the dining room was an AFA member. So he telephoned our membership department and asked if we had a member named Bryte. We did, a retired Air Force colonel. We gave Mr. Lerom Colonel Bryte's address and telephone number.

One call put things to right. Mr. Lerom and the colonel exchanged coats. And our membership department cancelled its enrollment in a private eye correspondence course.

☆

The principle of "equity of service" on which universal conscription is usually justified (see page 23) reminds us of author George Orwell's allegorical book, *Animal Farm*. In it Orwell depicts what happened in a barnyard when the pigs (the Communists of his allegory) took over. The pigs justified their special status with the statement, "All animals are equal, only some animals are more equal than others."

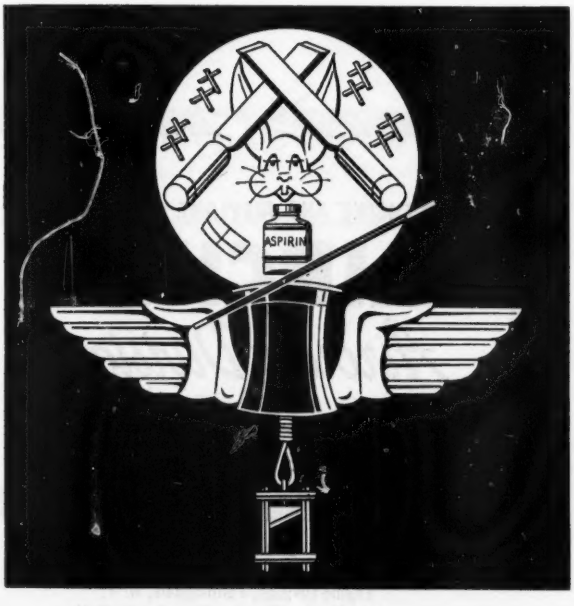
☆

A quiet project in the fold of airpower education is the work being done by the National Aviation Education Council. Its Materials of Instruction Committee (Evan Evans, chairman) is publishing a series of booklets designed to explain aviation to school children of various age groups. To date, six have been published—*Look to the Sky, Jets, Helicopters, A Day in the Life of a Jet Pilot, Aircraft Number 116—The Story of the Aircraft Plant*, and *Aviation Activities*. The booklets are handsomely designed and well written and should prove highly useful as supplementary texts. Copies may be obtained by writing to the Materials of Instruction Committee, National Aviation Council, 1115 17th St. N.W., Washington 6, D. C. Prices are fifty cents for a single copy, forty-five cents for 25 to 99 copies, 100 or more, forty cents each.

☆

The experiment at Vance AFB, Okla., where the USAF is employing a civilian catering service to prepare and serve meals, has resulted in an interesting and amusing sidelight. The garbage hauling contractors at Vance have asked for new contracts since the quality and quantity of the garbage has dropped appreciably. The Air Force chooses to believe that this means more food is being eaten and less wasted. However, some of us feel that there are more odorous overtones.—END

We don't know the name of the genius who dreamed up this insignia for an Air Force Supply Officer. A copy of his proposed design floated in over our transom one day and tickled our fancy. Our Art Department's redrawn it to bring out some of the finer points, and we present it below with the hope that our readers—especially those who are AF Supply Officers—will get a kick out of it, too.



★

The insignia is silhouetted on a field of black, indicative of the supply outlook. The silver wings signify the association of the officer with the AF. AOCPs and supplies for "pet" projects come out of the magician's hat. Transfixed over the hat is the magician's wand, used to solve personnel problems. It also signifies the ease with which supply problems are solved. On top of the hat is a crystal ball, used to ascertain future supply requirements. The aspirin bottle is self-explanatory, and the rabbit signifies speed—the animal the Supply Officer must be quick as. In the crystal ball are the crossed chisels—basic tools of the Supply Officer—rampant on a field of double crosses, alternating gold and silver. The gold is for the golden promises of help, and the silver for the silver-tongued oratory of those who call Supply easy. *Pendant* is the hangman's noose, awarded by Operations personnel as a constant reminder. And *pendant extraordinaire* is the guillotine, another reminder from Maintenance to signify the keen edge they have on Supply and to focus attention on the fact that the Supply Officer may lose his head if he doesn't come through.

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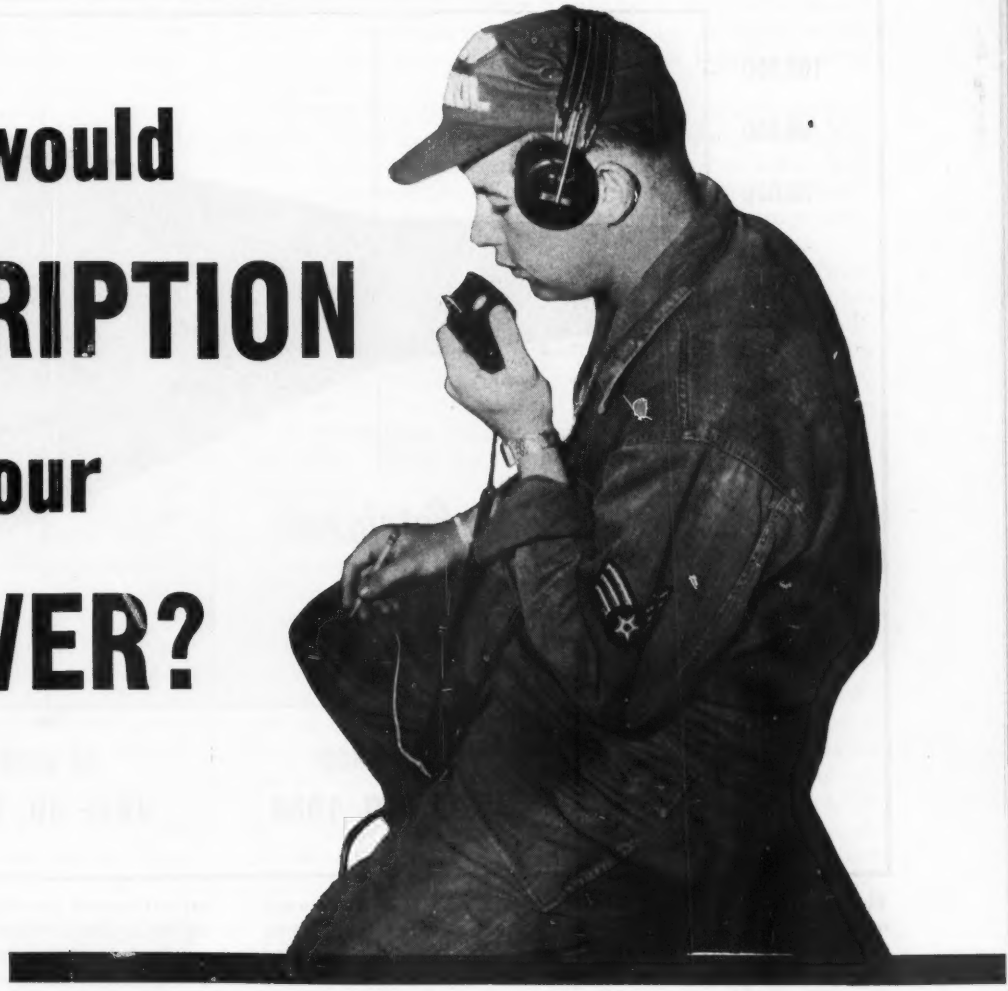
AN EX-INFANTRYMAN'S THOUGHTS ON UMT

What would CONSCRIPTION do to our AIRPOWER?



Could a six-months' trainee do the same job as this AACS approach controller in an air traffic control center?

By John F. Loosbrock
MANAGING EDITOR, AIR FORCE MAGAZINE

WHEN I was a $21-a-day (once a month) private in the days of the pre-Pearl Harbor "Old Army," there was a day-room joke applied to those who had not yet spent a full year on Uncle Sugar's payroll.

"Son," the short-timer was told, "your bunk-tag ain't stopped swingin'."

Like many a catch phrase, the light remark contained a nugget of profound truth. The implication was that the recruit hadn't yet learned what the Army was all about, that he was still an empty vessel into which skills, training, and know-how had to be poured, that it would be some time before the Army's investment in him would begin to pay dividends. And if such was the case in a technologically primitive ground Army in 1940, how much more true it must be in the complex, jet-propelled, nuclear-armed Air Force of today.

Hence the proposed conscription program which the Administration intends to lay before Congress this session disturbs this old foot soldier more than a little bit. I have

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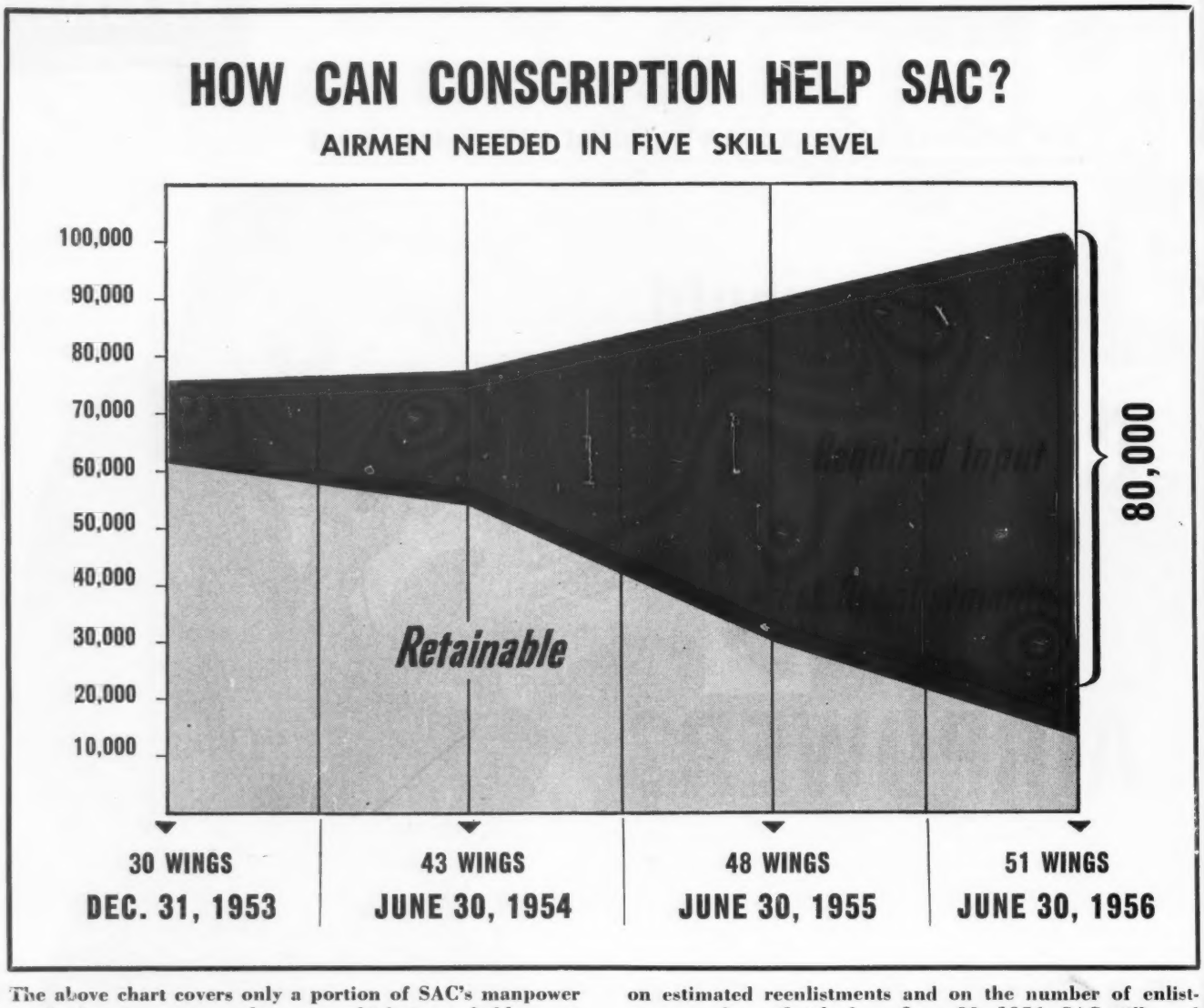

The above chart covers only a portion of SAC's manpower needs, but it concerns that part which is probably most typical. The Five skill level is that which the average airman attains by the end of his first enlistment. By June 30, 1956, when SAC will be manning 51 wings, it will need about 100,000 airmen in the Five category. Based on estimated reenlistments and on the number of enlistments to be unfinished on June 30, 1956, SAC will need an input of almost 80,000 men into the Five skill category, alone, to meet its manpower requirement. If universal conscription should be allowed to drain off prospective US Air Force recruits, SAC would be in trouble.

the feeling that the proposed combination of UMT, Selective Service, and voluntary enlistments has been designed to satisfy everything but the military requirement. And, if legislated, it could seriously compromise the effectiveness of the arm which admittedly is the cornerstone of our current military establishment—the United States Air Force.

The hooker would appear to be a provision which would allow a certain number of youngsters liable for military service to elect to spend only a few months of active-duty training, coupled with a long period of years in one of the Reserve components. The details have not been spelled out, but current thinking envisages six months of active duty followed by nine and one-half years in the Reserves. It is not yet clear how many youths would be allowed to elect this attractive option, but the Administration appears to be thinking in terms of 100,000 annually.

Under the plan there would still be a draft and there would still be voluntary enlistments. A youth attaining draft age, 18½ years, could also volunteer for enlistment or be inducted under Selective Service for a two-year hitch. This would be coupled with a six-year Reserve service obligation. Right now, the Army is the only service accepting two-year inductees.

The youngster's third option would be to enlist in a Regular service. In the case of the Air Force, this would mean a four-year term, with a four-year Reserve obligation if he failed to reenlist.

On paper the plan looks good. It is based, in theory, on the assumption that every man has a duty to serve his country, and who can quarrel with that? Reserve organizations like it because for the first time it gives the Reserve a forced input of manpower, especially in the enlisted grades. Veterans' organizations are perennial sponsors of conscription since it seems to offer hope that veterans will not have to fight future wars. Air Force Reservists still smart under the Korean recall, which dragged back into service more than 100,000 involuntary recallees who had assumed they would not put on the suit again short of all-out mobilization.

It may be old-fashioned to say so, but the place to start building a defense program—whether it be manpower,

equipment, bases or what have you—is with the military requirement. It is one thing to build a military machine designed primarily to give a man an opportunity to fulfill that obligation. That would be leaf-raking on a scale the WPA never dreamed of. It certainly is the hard way to build a military establishment that will act to deter a war and that can win if war should come.

At the present time our announced military and foreign policy is keyed to the deterrent strength of airpower. Hence, we are obliged to assess military programs in the light of what effect they might have on our airpower. Let's see how the latest version of UMT stacks up in this regard.

It is pretty well acknowledged that the US Air Force's number-one problem, and therefore, the number-one defense problem of the nation, is manpower—trained, skilled manpower. At the present time the Air Force is doing a pretty good job of getting the voluntary enlistments it needs for its authorized strength. Since July 1, when Air Force recruiting was divorced from the Army, Brig. Gen. Arno H. Luehman's 3500th Recruiting Wing has met ninety-eight percent of its quota.

Unfortunately, a high proportion of these men, about forty percent according to one survey, take a four-year hitch in the Air Force because they know they have some military service to do. And they prefer four years in the Air Force to two years in the Army. Right now it's just about that simple.

But what is the situation when the youngster's choice becomes four years as against only six months? Granted, no one knows what actually will happen, because thus far we haven't been faced with the problem. But unfortunately, the young fellow, under the proposed plan, must make his decision before he reaches the age of nineteen. And that is exactly the age bracket where the Air Force, and the other services for that matter, pick up the majority of their regular enlistments.

Six months is a very small chunk out of an eighteen-year-old's life. It seems highly probable that the bright young fellow, exactly the type of material the Air Force sorely needs, will say to himself, "I can do six months of any kind of service standing on my head. And then I'm through. I can go back to school, or into a job. The Reserve duty? I'd rather take my chances with it than spend four years in uniform, for sure."

As TV comic George Gobel might say about this Air Force specialist, "You can't hardly get men like that no more."

True, the short-term deal is being made as unattractive as possible. The pay scale would be a flat thirty dollars a month. Six-month volunteers would be ineligible for GI benefits. And they would incur a rather lengthy Reserve obligation.

Nevertheless, the Air Force's manpower experts are pessimistic about being able to do their job should UMT become effective. The competition becomes too keen. And the alternative, if the USAF is to be kept at strength, would be to go to shorter than four-year enlistments, perhaps even to accept two-year Selective Service draftees.

Up to this point this nation has never had a conscripted Air Force. It is highly questionable, under present or proposed ground rules, that this could ever be an acceptable solution under conditions short of all-out war. And then it would be too late. The reason is primarily one of time. Even on a four-year enlistment, an airman has a comparatively short time when he is useful to his service. The bulk of his service has been spent in being trained to do his job.

Since at present about three-quarters of the airmen in the Air Force are on their first hitch, a reduction of service would knock our air combat capability into a cocked hat and the Air Force would become one vast training command. Global commitments are a problem even now. Under conscription, the career Regulars would meet themselves coming back from overseas duty.

The Russians have a rather neat solution to the problem of a conscripted Air Force, but in the light of present planning it is doubtful that it would be an acceptable one to this nation. The Russian Air Force, I have learned, is three-quarters conscripted, one-quarter volunteer. Only the equivalent of our high school graduates are even allowed to volunteer for the Soviet Air Force. But their conscripted service period is three years, not two, or six months. And, when a Russian draftee has put in his three years, he must remain on active duty until a replacement has been obtained and trained. This is considered to be another three years. Thus the Soviets get an average of six years' service out of each conscript, whereas we consider ourselves lucky to get four years' voluntary service out of any one man.

Now, if the Air Force has its most compelling reason for getting original enlistments shot out from under it, how does it go about maintaing the skill levels needed to make it an effective fighting force? If the enlistment pool begins to dry up, the pressure to retain men already in the service becomes heavier. That means that the inducements for reenlistment must be stepped-up. For if you can't get new men, you'd better hang onto the old ones.

How good are we doing that? Let's take the Strategic Air Command as an example, since its ability to do a job must be the foundation of a "massive retaliation" policy. Right now, better than seventy percent of its enlisted personnel are men on their first hitch. In some critical skills this runs as high as eighty percent. By June 30, 1956, when SAC will be manning fifty-one wings, it will need approximately 100,000 airmen of the so-called Five skill level. This is the degree of proficiency that an average airman attains by the end of his first enlistment. Of these 100,000, based on present reenlistment data pro-

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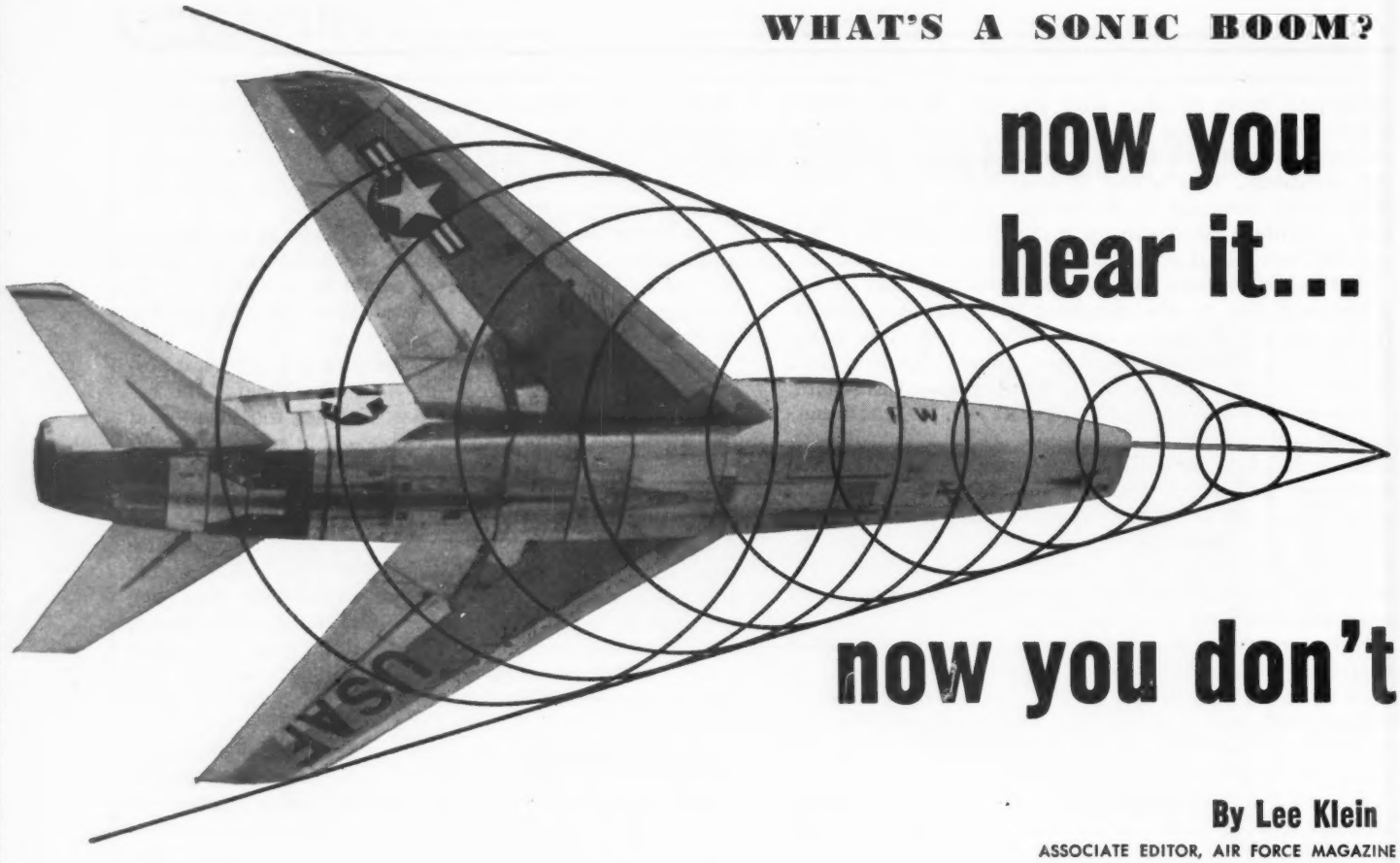


now you hear it... now you don't

By Lee Klein
ASSOCIATE EDITOR, AIR FORCE MAGAZINE

IF YOU'VE ever cracked a whip, you've made a sonic boom. The tip of the whip actually accelerates to the speed of sound and does the same thing to the atmosphere as a supersonic airplane. Thus, the mysterious new phenomenon that has been waking babies, scaring chickens, and stampeding cattle, is really not so new, after all.

Ever since the Air Force has had planes capable of sonic speeds in dives, ghost explosions have been heard all over the country. But it was the debut of the first truly supersonic fighter, North American's F-100 Super Sabre, that drove home the fact that the sonic boom was here to stay.

Seeing a new fighter go through its paces was old hat to most of the veteran newsmen who gathered at Palmdale, Calif., in October 1953 at the invitation of North American. But what they saw was unexpected.

The company's senior engineering test pilot, the late George Welch (see "Airpower in the News," November '54) was at the controls of the swept-wing, fish-mouthed fighter. He made a low, supersonic pass over the runway, parallel to Palmdale Airport's administration building. As he flashed by, observers were shaken by a loud boom and windows shattered.

The observers hadn't recovered from this unexpected jolt when Welch, unaware of the consternation below him, made another pass. More booms, more pulverized glass. Later investigation revealed that two-by-four and four-by-four wooden door frames had been snapped.

Fortunately, no one was hurt, except for a few shattered nerves.

What is a "sonic boom"? Scientists still don't know all the answers. The experts were as surprised by the thunderclap that signalled the advent of the new speed frontier as the laymen who heard the mysterious booms. But, in its simplest terms, a sonic boom is what you hear when the shock waves created by a body moving at supersonic speed hit your ear. The shock waves are strong pressure waves—just like sound waves.

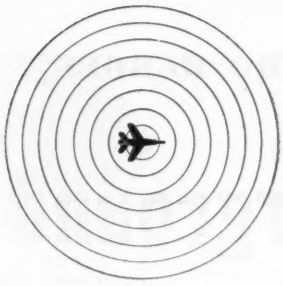
The accompanying drawings will help you see how a shock wave is created, and how it might look if you could see it. A faster-than-sound airplane actually produces several shock waves, but the weaker ones are usually absorbed by the stronger as they travel through the air, and the original six or seven strike the ground as one, two, or three booms.

Three things determine how loud the boom will be—the speed and the size of the airplane, and the distance from your ears. Intensity of sound can be measured in pounds per square foot. Loud thunder is a little less than two pounds per square foot. At about four pounds per square foot, sound becomes painful but the ear drums don't begin to rupture until about forty pounds psf.

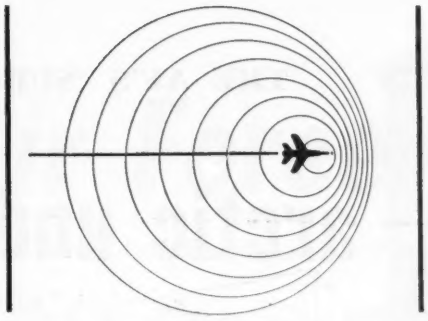
A recent report by the Wright Air Development Center says that peak pressures 5,000 feet away from an airplane at Mach 1.04 are about four pounds psf. In theory, increasing the speed by about four times at this distance only increases the pressure to about seven pounds psf. And at 10,000 feet, the pressures decrease to about 2½ and four psf for the two speeds.

The size of the airplane also affects the strength of the shock wave, just as a destroyer makes a bigger wave than a motor boat. But fortunately for babies and chickens and ear drums, distance decreases the intensity of the boom. Since we are already living in the supersonic age, it is good to know that from above 40,000 feet, the booms should not reach the ground—or will be very weak if they do—even with a big increase in speed.

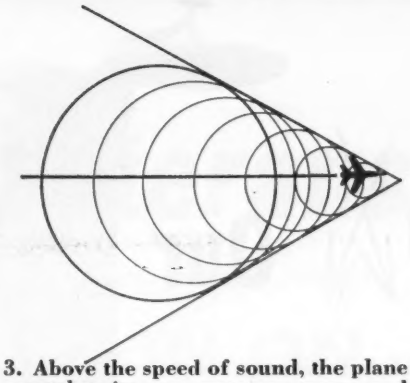
How far away can you hear a boom? To find out, people were stationed at points parallel and then perpendicular to the flight path of an airplane diving to 20,000 feet at supersonic speed, and another plane flying on a straight and level supersonic course. Results indicated that you can hear the boom about eighteen



1. Even on the ground, a plane can be a stationary source of the kind of pressure disturbances commonly called sound. The waves radiate like ripples from a pebble dropped into the water.



2. When the plane starts moving it sets up waves that warn the air ahead to get out of the way. At sub-sonic speed, above, the waves stay out in front, but they begin to bunch up.



3. Above the speed of sound, the plane overtakes its own pressure waves and surprises the air ahead. The line formed by the overlapping circles is the shock wave that causes the "boom."

miles on either side of the flight path. This figure was about the same for the longitudinal distance in the case of the plane in the dive.

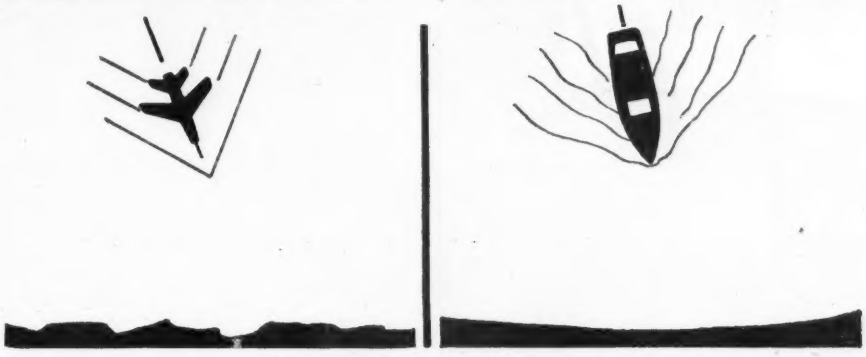
Even the experts who have worked closely with the sonic boom admit that they don't know how much damage it can do. They do know that high-speed, low-level flights, such as the F-100 demonstration at Palmdale, can inflict severe damage. They cite the case of the F-100 speed runs over the Salton Sea which rolled up a bill of $3,600 in broken doors and windows in seventeen homes.

To prevent damage to people and property and to reduce the nuisance aspects of the boom, the aircraft industry and the Air Force are working out ways to keep supersonic planes at "safe" distances and altitudes from populated areas. And because no one knows for sure what a shock wave would do to a lighter plane in the air, pilots are warned not to crack Mach One near other aircraft.

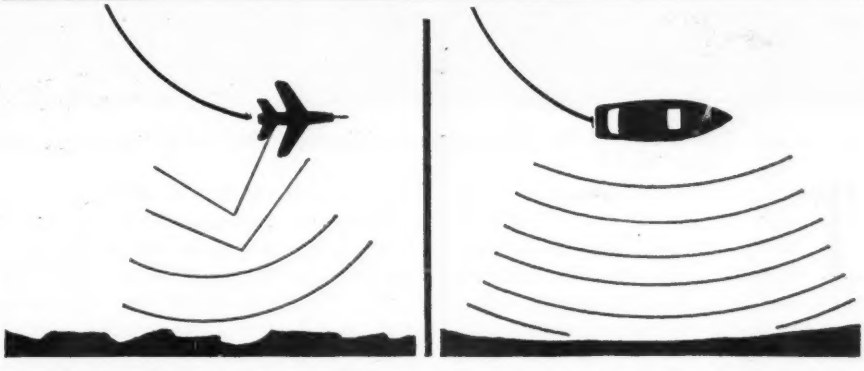
A fascinating aspect of the boom is speculation on its possible uses as a weapon. Eye witnesses who have seen what high-speed, low-altitude runs can do have been impressed with the weapons possibilities of the big noise. And the Air Force points out that pressures as high as 100 pounds per square foot—more than double the pressure at which human ear drums begin to rupture—could be produced by an airplane flying at Mach 1.5 at 100 feet above the ground. The strong shock waves could probably knock down wooden buildings, to say nothing of the serious psychological and physiological damage to humans who were around.

But experts tend to discount its value as a weapon—at least for the present. There are still too many unanswered questions.

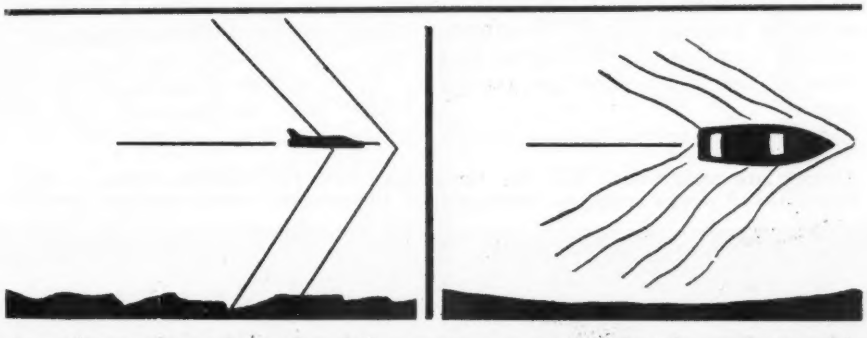
The Air Force and industry are studying the phenomenon and hope to get the answers. In the meantime, the Air Force is assuring the public that the boom's nuisance will be kept to a minimum.—END



Air acts a good deal like water at the speed of sound and above. So you can draw an analogy between a supersonic airplane flight and a boat plowing through the water. If you could see the shock waves produced in a supersonic dive by this airplane, they would probably look a lot like the bow and tail waves of a boat. In both cases, the pressure disturbances travel along with, and at the same rate of speed as the boat or airplane that is producing them.



If the plane slows down or pulls out of its dive, the shock waves it produces will break away and continue on until they dissipate or strike the ground—just as the waves produced by the boat will continue toward the shore after the boat stops or turns. If you happen to be standing near where the waves hit the ground, you will hear one or more booms. This type is called a "transient boom" and is the one that has been heard most frequently in the past.

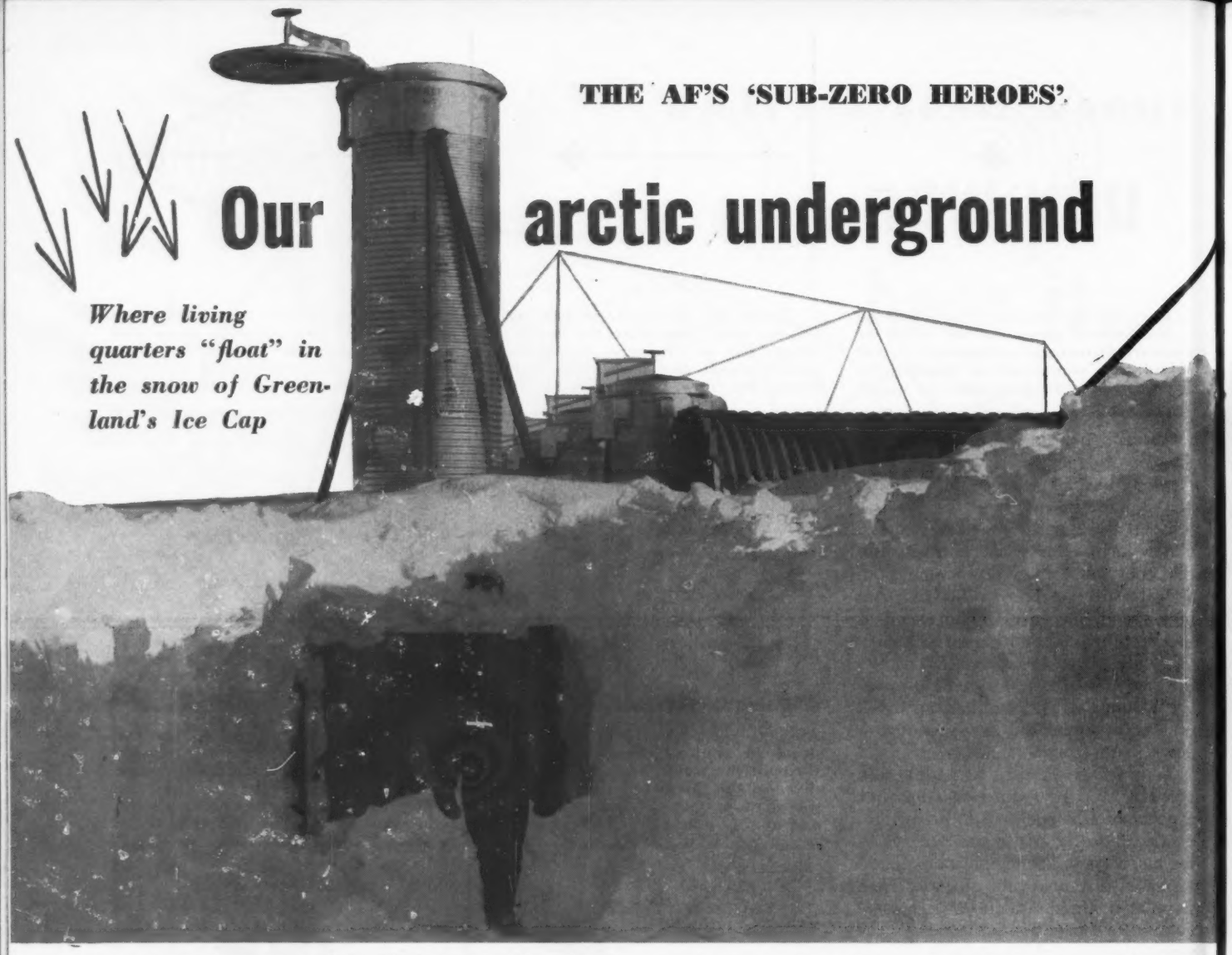


A continuous boom is produced the same way as a transient boom, but in this case the plane is travelling faster than sound in continuous level flight so that the waves travel along the ground, much as the waves produced by a boat running parallel to the shoreline will travel along the beach. You will still only hear one set of booms, as in the case of the transient boom, but the waves themselves will travel along the ground at the speed of the plane.

THE AF'S 'SUB-ZERO HEROES'

Our arctic underground

Where living quarters "float" in the snow of Greenland's Ice Cap



An airman leaves one of the Thule-type buildings in the normal manner. Tunnel at top is used when snow is higher.

THEY call themselves the "sub-zero heroes" of the Northeast Air Command. They're the men of the USAF who live, oftener than not, in gradually sinking, tube-like structures underneath the Greenland Ice Cap, where your front door is an escape hatch—straight-up in the air.

Here the airmen who live beneath the surface of the vast snow and ice-covered island man an experimental station that keeps tabs on the weather at the far northern outpost. They also conduct tests that may bolster the defense of the North American continent.

Army Engineers put up the buildings, which are of the Thule type, of magnesium and aluminum, plywood, and fiberglass panels. As added protection against the bitter cold, the square boxlike rooms are set inside galvanized steel culvert tubes, eighteen feet in diameter.

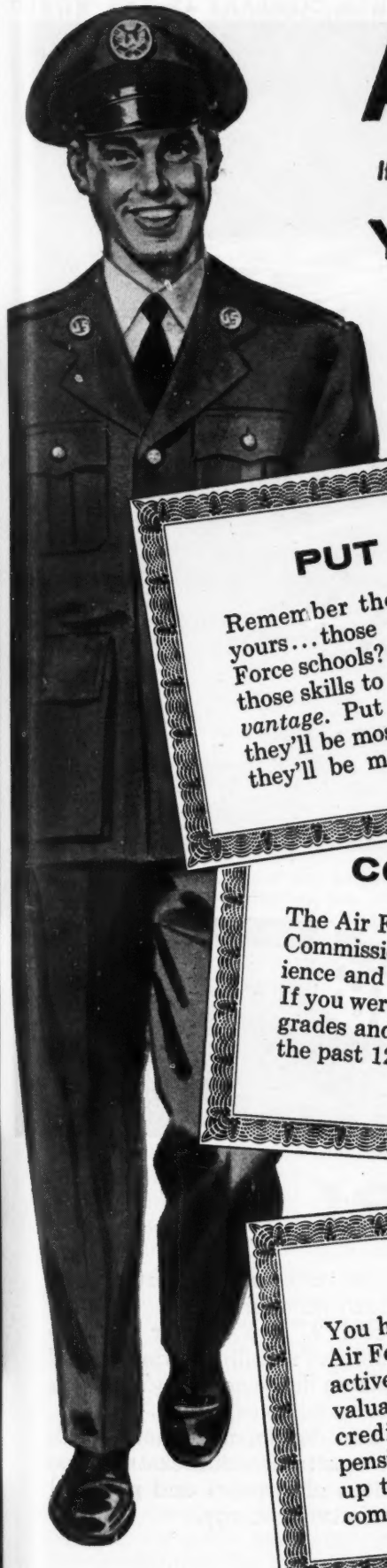
The Air Force believes this is the first time a permanent type of installation has been tried under the conditions you find on the Ice Cap. For here the snow and ice have a churning action that tends to bury any object on the surface after a short time.

To whip this churning action, the tubes "float" on the snow, and sink

(Continued on page 31)

Riding herd on the weather is one of the important functions of the base.

Airmen are assigned to the site for a tour of three months. Here, a slow-flying C-119 drops supplies. Ski-equipped planes land when weather permits.



Air Force Veterans

If you're out less than a year... If you were discharged as a non-com

YOU CAN CASH IN ON YOUR INVESTMENT

PUT YOUR SKILLS TO WORK

Remember those service skills of yours... those skills learned in Air Force schools? Now's the time to put those skills to work to *your best advantage*. Put them to work where they'll be most appreciated... where they'll be most rewarding... right back in the U. S. Air Force. The experience and know-how you gained during your active service makes you valuable to the U. S. Air Force... and continued service will make you even more valuable and add to your earning capacity.

COME BACK WITH A GRADE

The Air Force wants former Non-Commissioned Officers with experience and skills you may possess. If you were in one of the first three grades and have separated within the past 12 months you will qualify for stripes in the U. S. Air Force. Check with your local recruiting station for complete details on how you can get what's best for you when you come back into the U. S. Air Force.

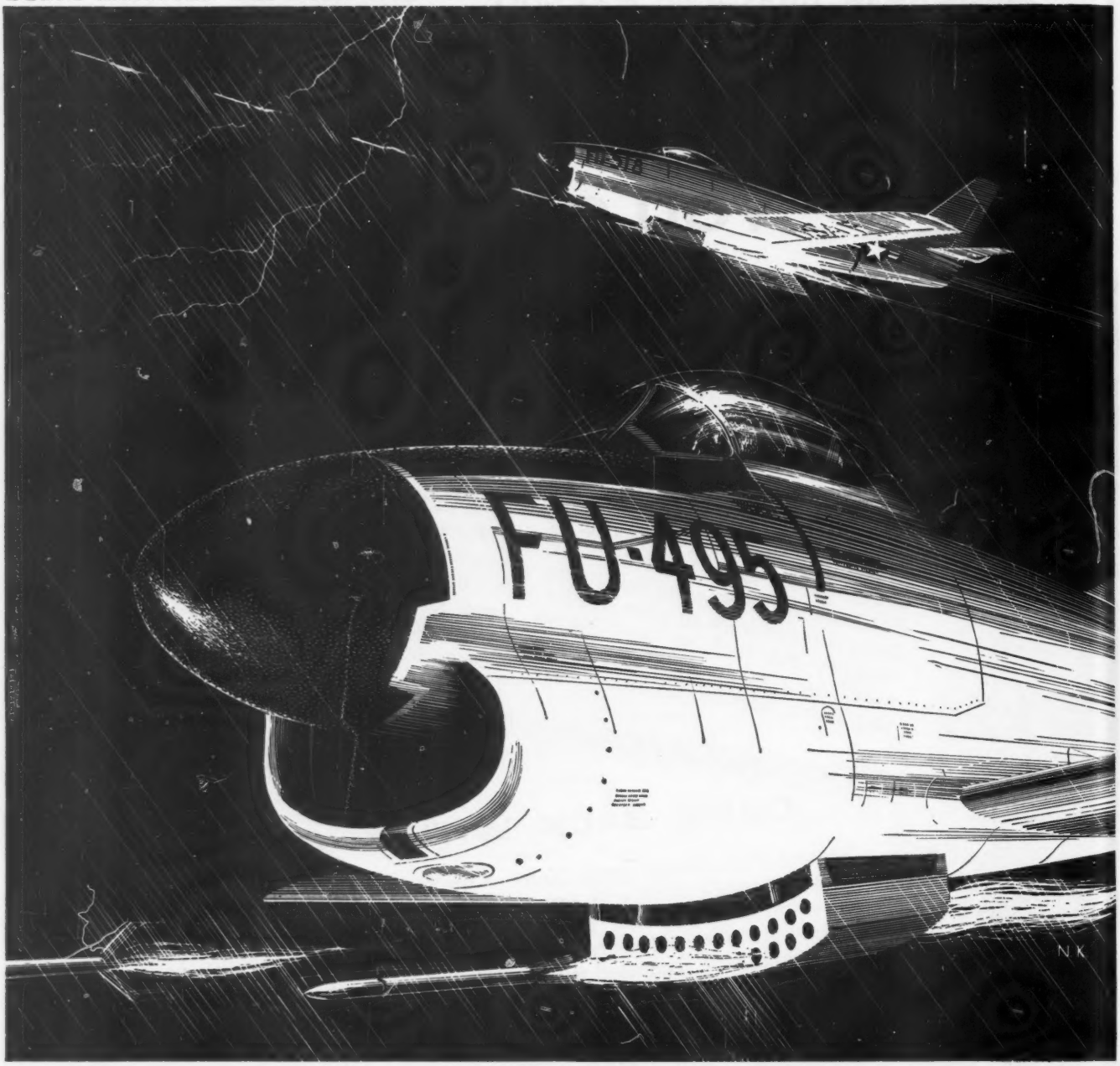
RETIRE WITH A PENSION

You have an equity in the U. S. Air Force. The time you spent on active duty has earned for you valuable retirement credits... credits toward a good paying pension at a later date. Why give up this investment? Why not come back into the Air Force as a career. With each day, with each year you spend on active duty, you'll be building a retirement fund that will insure you of a comfortable income for the rest of your life upon completion of length of service requirements.

YOU GO PLACES—FASTER

as an airman in the **U.S. AIR FORCE**

NORTH AMERICAN HAS BUILT MORE AIRPLANES THAN ANY OTHER COMPANY IN THE WORLD



"D" FOR DEFENDER!

The F-86D Sabre Jet—the Air Force's first one-man interceptor—is vital to America's continental defense system. Hundreds of these continental defenders are now flying from Air Force bases ringing the United States... and another version, the F-86K, is in production for NATO countries.

Day and night, in all kinds of weather, the North American F-86D carries out its mission. A hit from a single one of its 24 Mighty Mouse rockets can destroy any known modern bomber.

The "D" and "K" are another example of North American's ability to design and produce airplanes that meet today's defense needs today... at home or abroad.

Research and development make North American foremost in aircraft, rocket engines, guided missiles, electronics and peaceful applications of atomic energy.

ENGINEERING AHEAD FOR A BETTER TOMORROW

NORTH AMERICAN AVIATION, INC.

at a predetermined rate. And as the main structures become covered, the cargo and personnel hatches are heightened to keep them above the surface of the snow.

The temperature of the living areas is kept at seventy-two degrees Fahrenheit. The storage areas for perishable food are heated to about forty degrees, and frozen food storage ranges between ten above to twenty below zero. The corridors and areas between buildings are left unheated to keep the over-all temperature of the site below freezing. This prevents the structure from sinking too rapidly.

Because of the rigors of this sort of life, airmen are assigned to the Ice Cap sites for tours of only three months. They're resupplied by ski-equipped aircraft and air drops as often as the weather clears up enough to let the planes get through.

But air operations grind to a halt during a "white-out." This is a condition that results when the wind gets strong enough to whip up the snow so pilots can't see the horizon or distinguish between the snow surface and the height of the blowing snow.

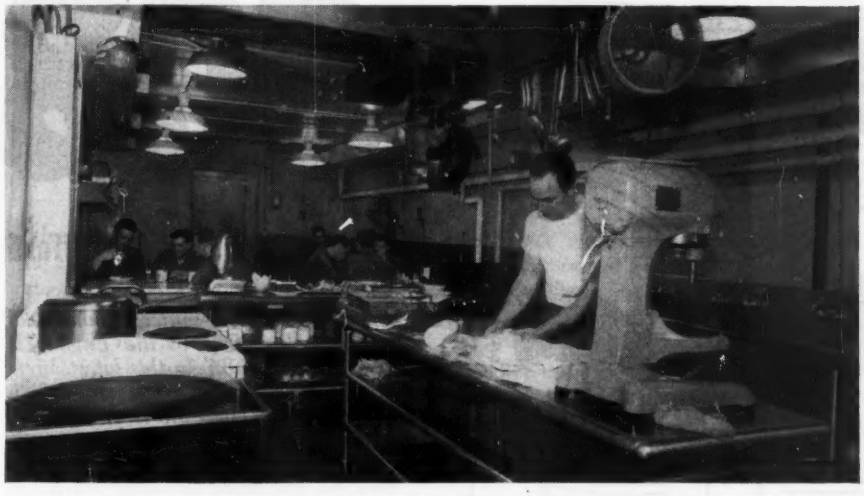
Despite the weather and the loneliness, morale is high at the installation. Movies, ping-pong, cards, and records provide recreation. And the outpost has a small but complete dispensary with a medical service supervisor on hand around-the-clock.

Diesel generators supply power for heat and electricity. They're fueled from fifty-five-gallon drums that are often air dropped. The men get their water by melting snow in a huge, fuel-powered melter.

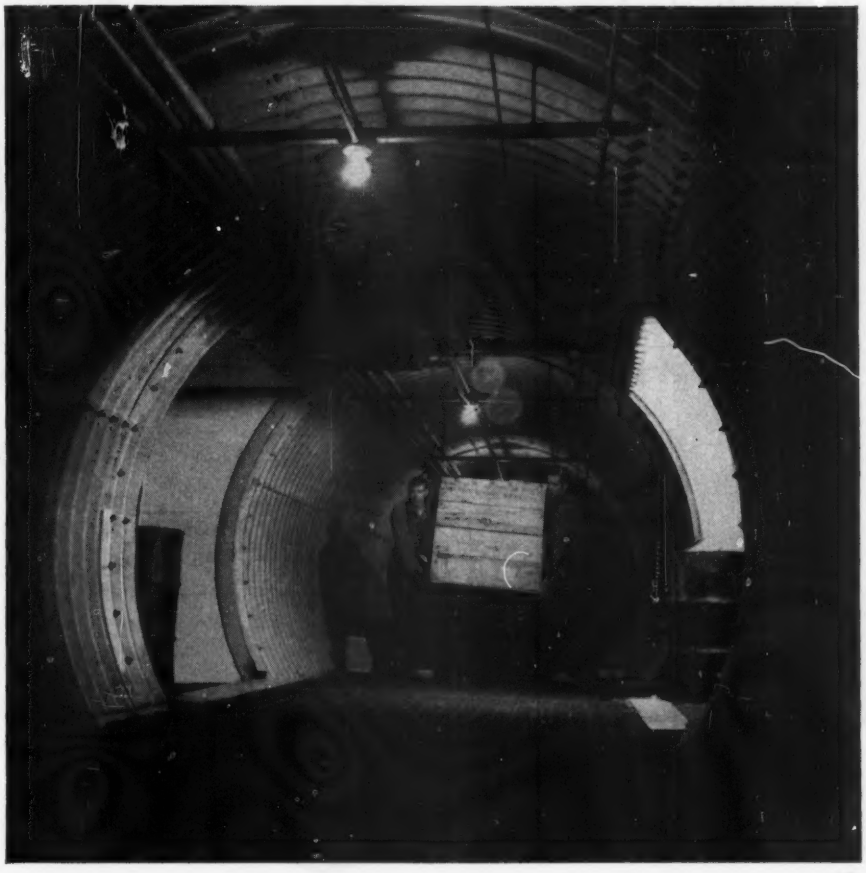
When operations first began at the installation, which is a mile high on the Ice Cap, the cooks discovered a problem that hadn't been anticipated. They were using low-altitude recipes for their baking. Things improved quickly with the publication of a special, high-altitude, Ice Cap cook book.

Now in complete darkness, as it will be for the rest of the three-month winter period, the site is well covered with snow (these pictures were taken early last summer). And until March, when the sun will appear next, there won't be much to be seen except protruding hatches and piles of fuel drums stacked nearby.—END

When the main structures are covered with snow, access is possible only through these hatches. They can be raised above the level of the snow.



About the only clue that this kitchen and mess hall are below the surface is the lack of windows. Baking was an early problem on the mile-high ice cap.



The underground base is built of galvanized steel culvert tubes. These tubes "float" in the snow and sink down into it at a predetermined rate.

HOW TO BE AN SOB

By M/Sgt. Frank J. Clifford

There's hardly a saltier or more widely understood epithet in the English language than "SOB." In this latest offering of one of our more vocal authors, Sergeant Clifford gives the term a new connotation. At first reading we were a little disturbed that some of our readers might miss his fine irony of using "SOB" as a gimmick. When we raised the point with the author, he staunchly defended his use of "SOB" as an expression and pointed out that the initials can also stand for "Superior Officer Behavior." So on that basis we figure the sergeant's words will get through to everyone. His byline last appeared in AIR FORCE *in our November '54 issue, with the article "Dress Right." —The Editors.*

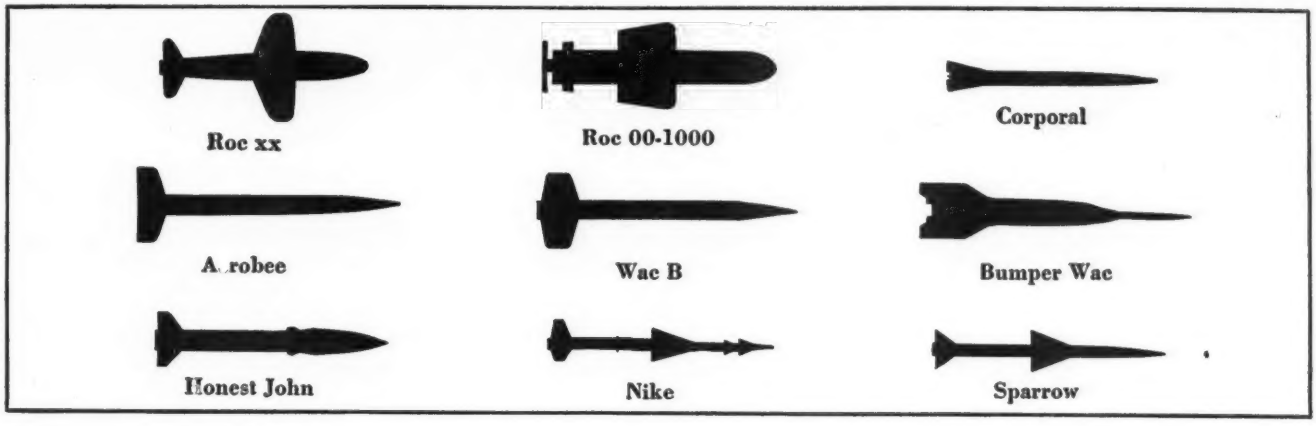
LIKE any of the fine arts, being a thoroughly competent SOB is not a skill that's easily acquired. Takes practice.

A person capable of Superior Officer Behavior (or call him Sylvester Oscar Blitz, or just SOB) is the product of diligent study, careful observation, and energetic determination to get the job done. He is damned as a real SOB by the status-quo trade, which dislikes anyone who rocks the boat.

The bona fide SOB is never deterred by hand-wringers and parrot-pusses who chant: "This is a crummy outfit," or "Cripes, this is a helluva base," or, "What an assignment for a guy like me." A real SOB is an "up" guy who accents the positive and uses the negative only to point out legitimate reasons why a given project flopped in the past.

The best place to begin to be an

(Continued on page 37)



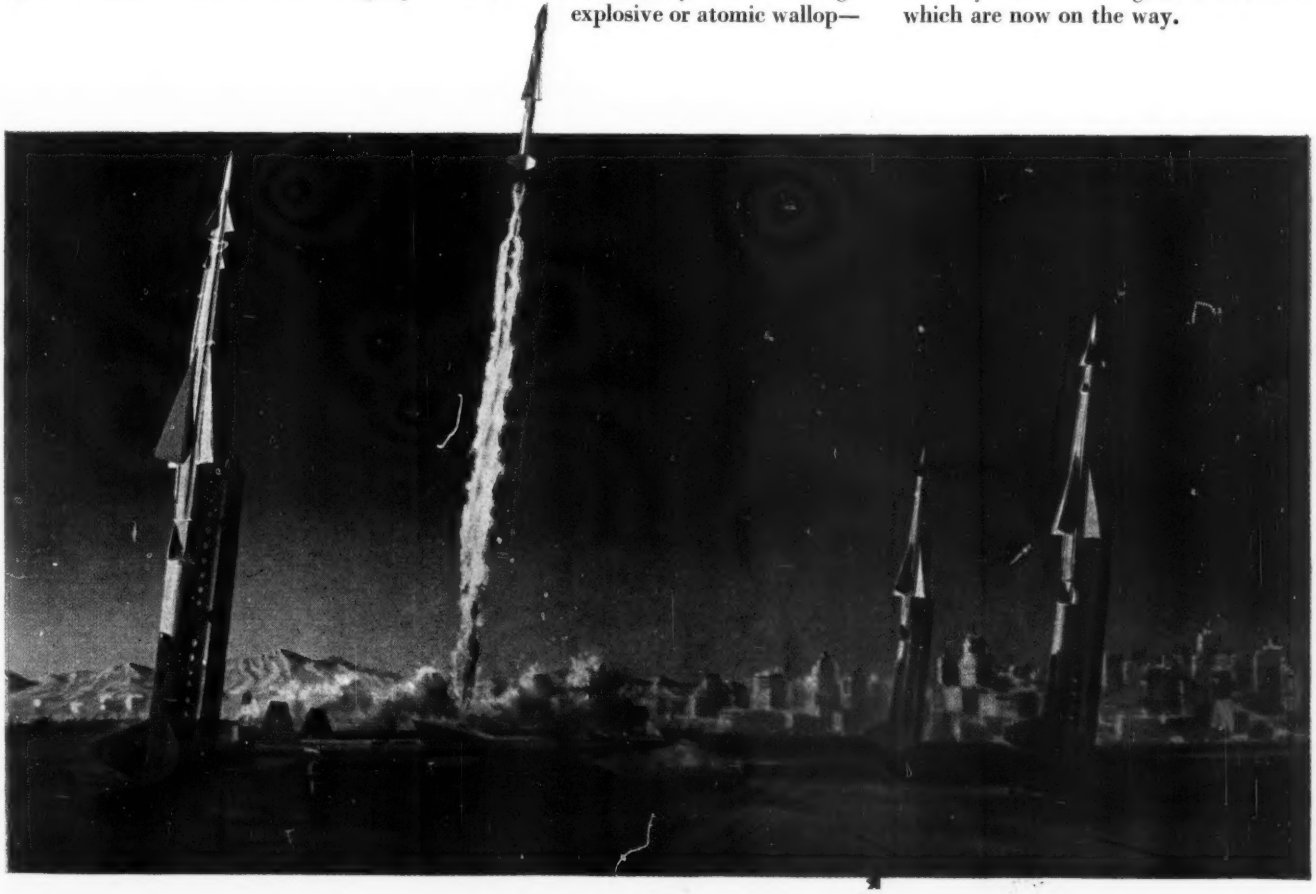
Missiles by DOUGLAS

A box score of 15 years' continuous participation in designing and building guided missiles for the Air Force, Army and Navy

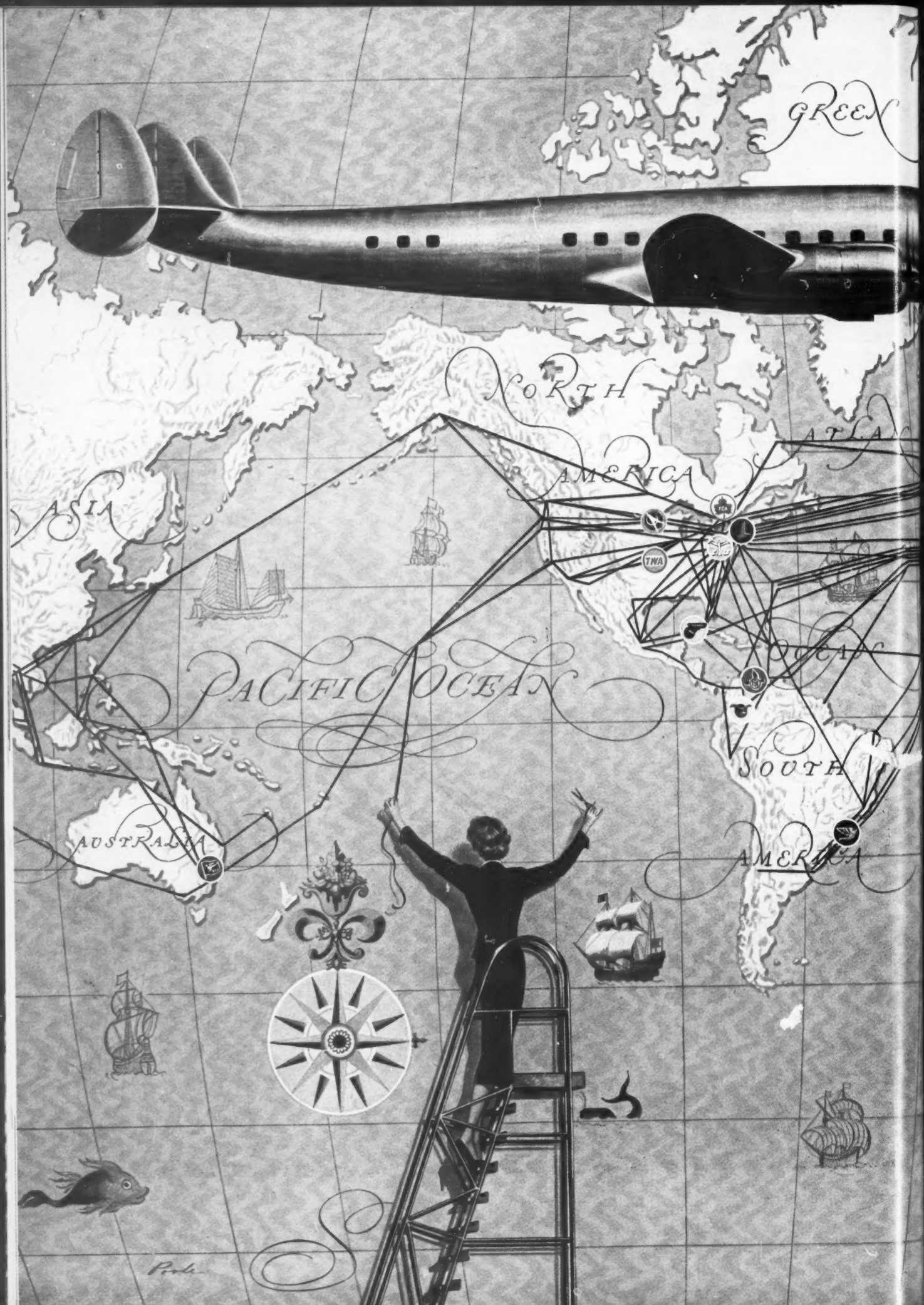
Already key cities have the protection of a guided missile which can destroy the swiftest stratospheric bombers. This is Nike, *operational* result of long and versatile missile experience.

Douglas association with rockets and guided missiles has seen this company at work with other industrial leaders and our Armed Forces—to move missile development from a dream of push-button warfare to a solid reality. You saw it in the Bumper Wac research rocket, world altitude champion, in Honest John—field artillery rocket with high explosive or atomic wallop—in missiles of every type . . . air to air . . . air to ground . . . ground to ground . . . ground to air.

Douglas leadership in rocket airframe design has helped give us *operational* missiles in a relatively short span of time. Security cloaks even greater advances which are now on the way.



Depend on *DOUGLAS* **First in Aviation**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Leadership demands constant achievement

EUROPE
AFRICA
YOU CAN FLY MORE PLACES ON FAMILIAR SUPER CONSTELLATIONS THAN ON ANY OTHER LONG-RANGE TRANSPORT IN THE WORLD

Map shows major routes of these 18 Super Constellation airlines:

(Figures represent total unduplicated route miles for each airline.)

- Air France 162,000
- Air-India International 16,100
- AVIANCA (Colombia) 28,500
- Cubana (Cuba) 8,600
- Deutsche Lufthansa (Germany) 11,200
- Eastern Air Lines 12,700
- Iberia (Spain) 41,000
- KLM (Holland) (144,000)
- LAV (Venezuela) 16,700
- Northwest Orient Airlines 17,300
- Pakistan International 5,200
- QANTAS Empire Airways 68,800
- Seaboard & Western (All-cargo routes applied for)
- TAP (Portugal) 11,300
- Thai Airways (Thailand) 19,700 (proposed)
- Trans-Canada Air Lines 19,000
- TWA-Trans World Airlines 33,000
- VARIG (Brazil) 19,000

Insignia on map show airline headquarters.

Every month another airline starts *Super Constellation Service*

To you this means that soon you can fly more places faster, in greater comfort than ever before . . . on big, fast, luxurious transports that are world-renowned for dependability —*Lockheed Super Constellations* . . . now with turbo-compound power.

Already more new Super Constellations are being built to airline order than any other comparable air transport . . . ordered by more than twice as many leading world airlines. So many, in fact, that every month during 1954 a different airline started Super Constellation service. This record is continuing in 1955.

More world airlines (18) have ordered the Super Constellation than any comparable transport—worth remembering next time you fly.

Lockheed

AIRCRAFT CORPORATION

BURBANK, CALIFORNIA, AND MARIETTA, GEORGIA

Look to Lockheed for Leadership

The poised and massive power of the Strategic Air Command has given it a unique role in the annals of military history, that of a dominant force for world peace. Superior aircraft like these B-47s in readiness at March Air Force Base, California, expertly trained maintenance and flight crews, advanced weapons and dedicated leaders, make it America's most potent defender.

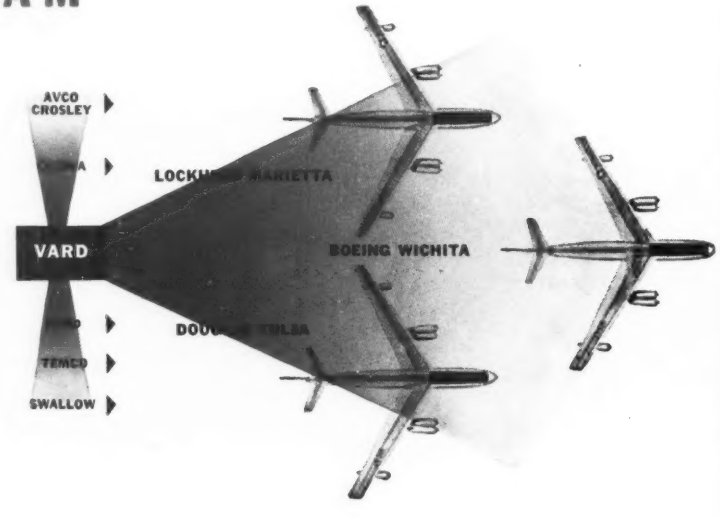
OUR FIRST LINE OF DEFENSE

A PRODUCTION TEAM

Vard is a prime factor in the integrated production team supplying components for the Boeing B-47 medium range bomber. More than thirty Vard built units are used in the B-47 aircraft consisting of the following types:

- AERIAL REFUELING RECEPTACLE
- LANDING GEAR ACTUATORS
- FLAP DRIVE SCREWS
- GEAR BOXES
- BALL SCREWS
- FRACTIONAL HORSE POWER MOTORS
- LINEAR AND ROTARY ACTUATORS

Quantity production of Vard equipment meets the vital "on schedule" requirements of a successful weapons system.



FIRST in mechanical actuation

VARD

VARD INC 2981 EAST COLORADO STREET, PASADENA 8, CALIFORNIA

SOB is as a squadron commander. Here, for the first time, a man has a clear-cut command. He has an outfit he can tinker with and on which he can leave his mark. Like it or not, he leaves a mark of some kind.

An SOB's outfit is easy to recognize. The grass is cut, area policed, bulletin boards neat and fresh as today's newspaper, pool cues hung up in the Day Room, a civil crew mans the Orderly Room, and a minimum number of creeps hangs around the barracks at odd times during the day.

A real SOB likes inspections, not to find out whom he can gig, but for the sheer pleasure of seeing for himself that everything is OK in his outfit.

Other outfits conduct inspections, of course, but not with the same snap and dash. Frequent inspections are no guarantee you'll find a Sylvester Oscar Blitz in charge, but they are a good sign.

Where the rank-and-file squadron commander misses the boat is his own failure to appear, on the exact dot, at the time and place he specified for the inspection. A guy like this will fiddle-faddle around until he is an hour late—a situation he would not tolerate in one of his subordinates. And when he does appear, he doesn't have the courtesy to explain his failure to ". . . repair to the appointed place at the appointed time."

This man, no real SOB, then proceeds to put on a road-show version of the Man on Horseback. What started out to be an inspection, fair and square, is now just another round in a continuing fight between himself and his outfit.

He has defeated the purpose of the inspection—which is to determine with accuracy the status and well-being of his men and the functional readiness of his outfit. An SOB knows at every hour of the day the exact status of his outfit.

A journeyman SOB will first of all declare his intention to hold an inspection, allowing ample time for preparation and giving the date, the hour, the place, and the nature of the inspection. The uniform of the day will be fully described and an honest estimate of the duration of the inspection will be given.

Having read the ground rules, who can say he was not forewarned? An SOB trick like this turns excuses into alibis and a so-so outfit into a clicking team.

Our man arrives a bit beforehand, ready to commence his inspection at the same time he expects the troops to be ready. At precisely the correct time he emerges from the Orderly Room, meticulously turned out, for he is being inspected too.

A real SOB will let nothing delay him in the Orderly Room—he has a previous engagement with his outfit.

Then let the chips fall where they may, as they do in military academies the world over. The men themselves rather like the snap and crackle of a really competent inspection. Then, when a barracks passes inspection it means something, and you don't need gimmicks like "Honor Barracks" to bolster morale. Let all that qualify be honor barracks—let Tail-end Charlie and his colleagues stand alone in their shame.

During the inspection our man asks frequent, penetrating, and relevant questions, addressing as many men as possible by name. A real SOB doesn't mind putting someone on the spot provided a tangible military purpose is served. A pointed question is often better than a lecture in getting a point across. This gives the impression (well grounded in a real SOB) that the Old Man knows what the score is in his own outfit. It also gives the troops an opportunity to shine a little and at the same time makes the dullards straighten up and fly right.

Having done with the barracks, taking care to make his pleasures and pains well known to the principals involved, our man and his entourage move on to whatever other precincts exist in his bailiwick.

Mess halls and unit supply rooms, for example, are fine places to display SOB talent. Using either a note book in which past discrepancies are marked, or quoting from memory (by far the most effective technique—but should be attempted only by experts), the SOB calls for a report.

Supply, Mess, and the Orderly Room are the real fountainheads of that elusive quality called morale. An SOB worth his title will shake a firm stick over these three functions.

The authentic SOB is a hard working guy trying to set right all matters under his control. One of the biggest hazards he faces is the constant possibility that he will be turned off before he gets his program off the ground. The SOB is the Boss—but with a sense of responsibility that makes it impossible for him to ignore things that have to be dealt with.

But he is not a ramrod-stiff curmudgeon into whose life no ray of sunshine ever penetrated. He is simply a normal, healthy man, with a plus quality that prevents him from scampering into the crowd the minute a firm line of action is indicated.

Ideally, an SOB is on duty twenty-four hours a day. Off his squadron campus he looks for, and smartly answers, salutes. He also salutes his

(Continued on following page)

EVERYMAN'S GUIDE TO SOBery

Answer "Yes" or "No" to the following questions to determine your SOB Quotient.

1.____ Do you know more about your job than you have to?

2.____ Can you perform another, unrelated, military job well?

3.____ Would you take a one-grade promotion, at no increase in pay, so that you could qualify for a more responsible job?

4.____ Do you have time to get things done?

5.____ Is there anyone else in your shop who could easily take over if you were suddenly transferred?

6.____ Are you amazed, at times, at how much the Old Man knows about the business?

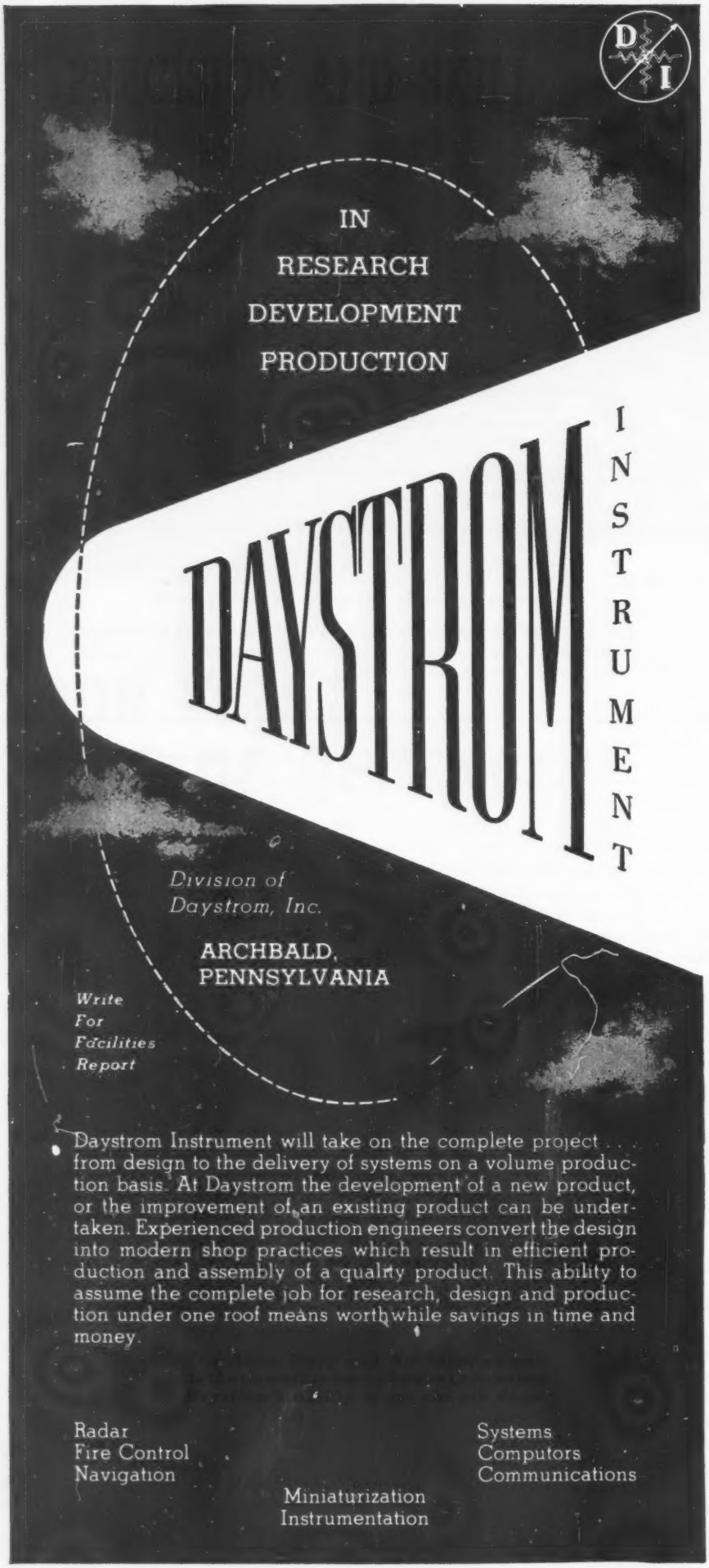
7.____ Do you read the military professional journals and the journals of related civilian fields?

8.____ By and large, do you think you have had a fair shake in your military career?

9.____ Would you like to try your hand at straightening out a goofed-up outfit?

10.____ Can you read, write, speak, and understand English, and can you convey an idea by the spoken or written word?

For each "Yes" answer give yourself 10 points. A score of 60 rates you as no SOB but headed in the right direction; 70 puts you in the apprentice class; 80 is a journeyman; 90-100, a full-blown Master SOB.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Daystrom Instrument will take on the complete project . . . from design to the delivery of systems on a volume production basis. At Daystrom the development of a new product, or the improvement of an existing product can be undertaken. Experienced production engineers convert the design into modern shop practices which result in efficient production and assembly of a quality product. This ability to assume the complete job for research, design and production under one roof means worthwhile savings in time and money.
Radar
Fire Control
Navigation
Systems
Computors
Communications
Miniaturization
Instrumentation

SOB—CONTINUED

superiors. He makes on-the-spot corrections of violations encountered.

All of this sounds like the SOB is a one-man show, playing all the parts himself. No, indeed! An SOB depends on teamwork for a considerable amount of his effectiveness. He knows how to delegate authority but he also knows that delegation sometimes becomes dilution. He knows that delegation in no way relieves him of ultimate responsibility. He delegates for efficiency and training and not as a means of spreading "the blame."

To keep things clicking he exercises his SOB traits whenever the situation requires—firing people who are not on the ball and increasing the responsibilities of those who deliver the goods. He cuts and cultivates to suit the job—not to suit some charming individual who is free-loading. To do this he has to be an SOB—both varieties. Nice guys never seem to be able to do this—or anything else.

Strangely, getting started is the easiest part in becoming an SOB. Every new broom sweeps clean, as the saying has it, but the surrounding inertia, the deliberate foot-dragging, the resistance, both active and passive, makes it hard to keep it up. This is why so many potential SOBs die aborning and why so few men ever achieve SOB status, and through it, leadership.

The psychic need for popularity is too strong; mass approval is too necessary to too many men. Yet I can recall few great military leaders who were also "popular" men. I draw my conclusion from what I have read and observed, so perhaps my opinion is vulnerable to contradiction.

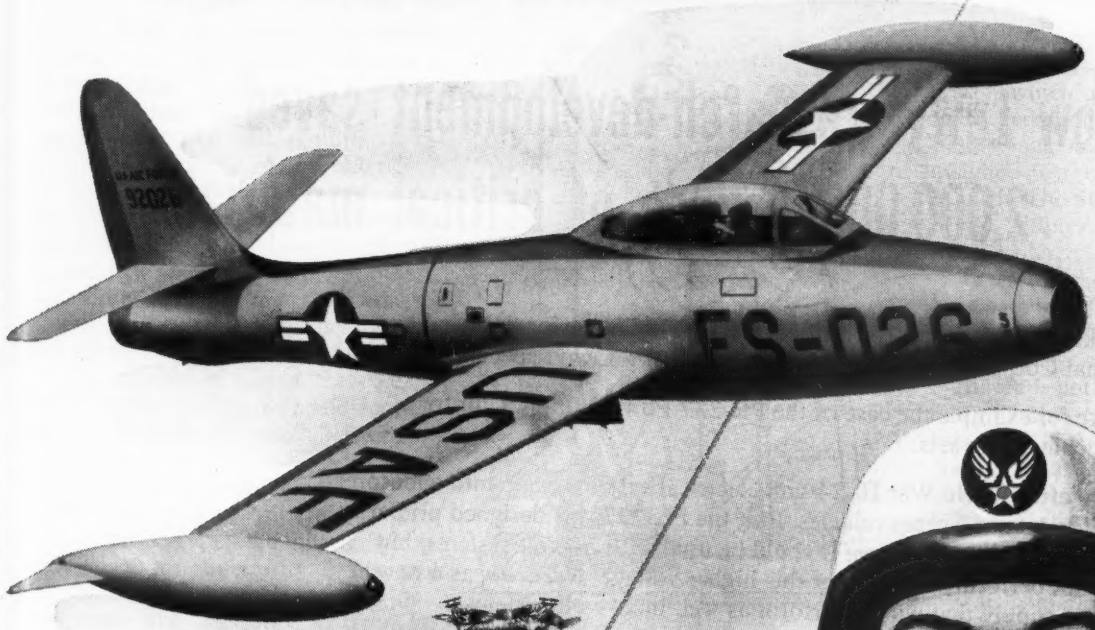
However, once the neophyte SOB has passed his trial by fire, uprooted and dispersed the discordant element, he has the battle more than half won for then he is known for what he is—an SOB who wants results, a no-foolin' guy where the good of the AF is concerned. The word gets around that in his outfit you had better shape up—and men come in, prepared by the advanced billing, to deliver the goods.

Since the company of SOBs is small, an arrived SOB is constantly on the lookout for new men to train in the art. A kind word, an approving remark, and steady support can lift a man from the "equal with all men" category and point him in the direction of superiority.

I would like to expand on this "equality" and "superiority" bit. While it is easy to say, "All men are created equal," the same man, Thomas Jefferson, no "equal" man himself, also

(Continued on page 41)

TO THE VICTOR...



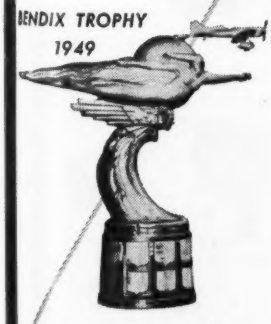
MACKAY TROPHY
1951–1954

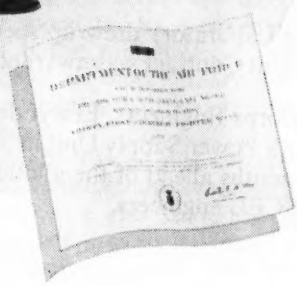
HARMON TROPHY
1951

GUNNERY TROPHY
1954

ALLISON TROPHY
1951–1953

BENDIX TROPHY
1949





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REPUBLIC AVIATION

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Designers and Builders of the Incomparable **THUNDER-CRAFT**

How Lewyt research-development saved 2,000,000 pounds of critical materials

Licking problems for the Armed Services—whether for the Air Force, Signal Corps or any other branch—has been a Lewyt specialty.

Take for example the case of the PE-237 Power Supply Unit for vehicular radio sets.

Soon after World War II, 24-volt electrical systems came into widespread use for Armed Forces vehicles. But, the PE-237 was designed primarily for 6 and 12-volt systems. It could be used with 24-volt systems, but did not perform efficiently at this higher voltage. *Needed* was a new power supply that would perform as well in 24-volt systems as it would in the 6 and 12.

. . . however, actual field experience with 24-volt systems was very limited!

. . . in addition, a power supply more compact than the existing PE-237 was desired—one lighter in weight, smaller in size and easier for the man in the field to service!

The Signal Corps Engineering Laboratory drew up specifications and a Research and Development Contract was awarded to Lewyt.

Working closely with Signal Corps Engineers, Lewyt developed the first prototype of the DY-88 Power Supply Unit in just 8 months. In 16 months—8 months ahead of the allotted 24—the DY-88 was accepted by SCEL engineers.

What were the results?

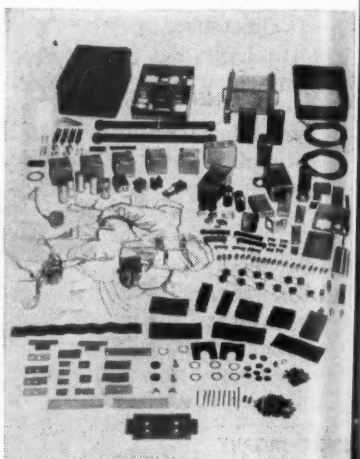
A smaller Power Supply Unit that performed equally well on 6, 12 or 24 volts!

A 90% decrease in wiring and soldered joints!

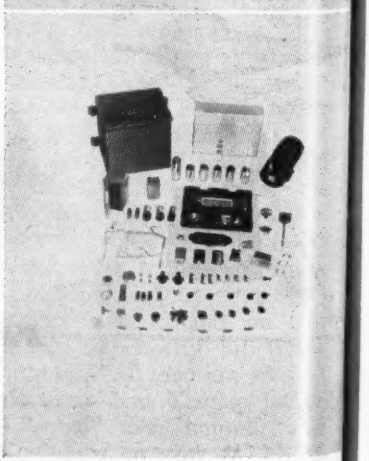
A 70% reduction in number of components!

A weight of only 33 pounds compared to 89—
a projected saving of 2,000,000 pounds of critical materials!

Research and development is another way Lewyt helps America get more defense for the dollar. Lewyt stands ready with 1,800 trained workers at all times—producing for peace, geared for emergencies.



Exploded view of formerly used Vibrator Power Supply PE-237 with its components.



Exploded view of Dynamotor Power Supply DY-88 (which supplants PE-237) with its components.

LEWYT

Manufacturers of Electronic and Electro-Mechanical Equipment Since 1888

LEWYT CORPORATION, BROOKLYN 11, NEW YORK

said, "There is a natural superiority among men." Dr. Samuel Johnson, a shrewd judge of men, put it this way, "No two men can be one-half hour together but one will acquire an individual superiority of the other."

Let me hammer the point a bit more. John Ruskin said, "My continual aim has been to show the eternal superiority of some men to others, sometimes, even one man to all others."

The SOB stands for all these things, for above all he is a reasoning being, a man capable of seeing the connection between horsepower and motion. He is no "average man" because he knows by that way lies mediocrity. The SOB wants superiority.

My definition of "superiority" does not mean a supercilious prig whose only claim to superiority is his own bombastic insistence. Results and performance are the only criteria for recognition.

The squadron commander has been used constantly as a point of reference in this article, but he is used only as a device of convenience. What has been said here applies equally to any supervisory job.

The line that separates the genuine SOB from the martinet is thin indeed; it is easy to break through it and when this happens, military discipline and morale undergo subtle sabotage. Sabotage all the more deadly because it is seldom challenged until it is so far advanced that a major effort is needed to return things to reality.

A perfect case in point is embodied in a sergeant major I once knew. This character, the high priest of correspondence coming up from the squadrons, did a masterful job of sabotage. On the desk in his throne room he had a plastic gadget, the exact dimensions of a sheet of standard typing paper. On this he had lines inscribed which marked how many spaces from the top, the left, the bottom and where the SUBJECT, the TO, the BY ORDER OF, and so forth were to fall.

Every technical measurement of a military letter was scribed in, in precise detail. When a piece of correspondence passed his desk, and all of it did, for he insisted on seeing everything, he slapped the plastic pattern over it. If the letter failed to pass his screen test he slashed at the offending entries, even if it was a single letter, with a red pencil. The paper, and the message it contained, went back to its point of origin for rewrite.

This man is not a SOB. He is a nitpicking nincompoop. So we see how thin is the line separating the two categories. The SOB exercises his authority to establish a straight, clean

Portrait of a nitpicker, picking a nit.

line connecting problem with solution. Our plastic gadget man uses his as a mace to batter progress to a halt. His plastic toy obscures the fact that the correspondence he so effectively throttled is the stuff life and morale are made of, for most military correspondence contains matters affecting human beings.

Before leaving this subject of correspondence I have something for the big boys. I also knew a field grade officer who was something of a champ with the red pencil. This boy was a free-style artist. No plastic gadget for him—his baby blue eyes were sufficient.

When something failed to pass this man's rigid scrutiny, he merely stroked the page twice with his red pencil, making a huge "X" covering the paper from corner to corner. No hint of what was amiss; let the troops guess. When bigger bottlenecks are needed, this is the man to build them.

A company-grade SOB, acting on information from his first sergeant, a pretty fair SOB himself, broke up the activities of both of these clowns by the simple device of telling them to cease and desist.

For want of a more convenient term to describe our man of uncertain paternity, suppose we call him Major Nitpicker.

Nitpicker looks upon mistakes, any kind of mistake, as an irretrievable disaster. Margin for error is never considered and all mistakes are of major dimensions. His spectrum includes only two colors—black and white.

On the other hand, our SOB capitalizes on mistakes, turning them into occasions for instruction. To him they are arrows pointing to some reason which generated the mistake—faulty communication, poor instruction, wrong man or not enough men assigned to the job, wrong tools, and so forth. The SOB picks up the pieces. Major Nitpicker would smash them still smaller.

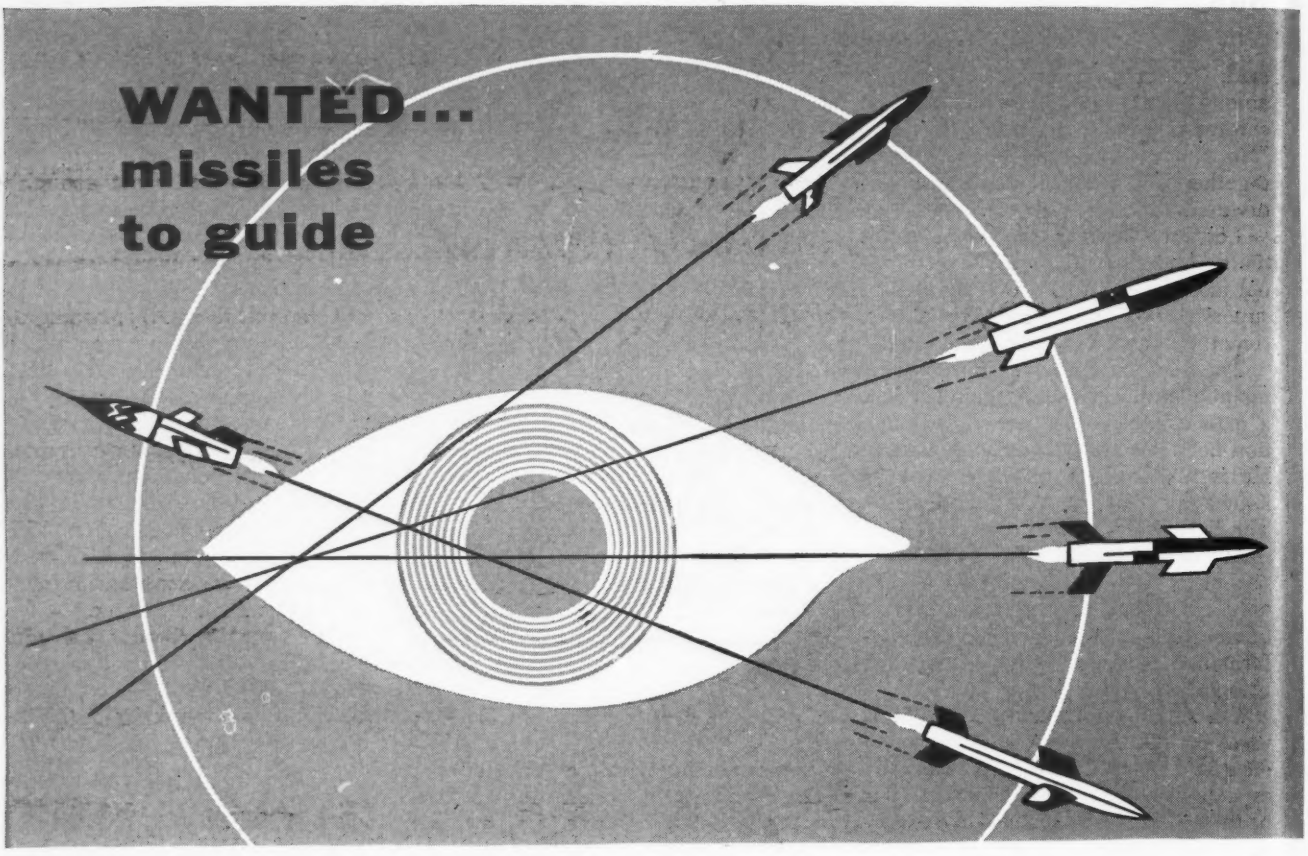
To do this the SOB is willing to put his head into the lion's mouth, or in Nitpicker's lexicon, he sticks his neck out. Courage is a characteristic of the SOB. He is not afraid to recognize the fact of failure and then communicate this fact in being to his superiors. Naturally, at the same time he proposes a new course of action. And he's SOB enough to see that the ingredients of mistakes are kept as far removed as possible from his outfit.

Can Superior Officer Behavior be taught? Certainly, provided the student is apt and willing to be an SOB. How do we know he is apt? Devious ways. Among them is a "possible" attitude he displays when confronted with a problem. A problem may be tough—if it weren't, it wouldn't be a problem—but an SOB looks at it from the "possible" side, he kicks ideas around and he won't be downed by routine impediments. He seeks a solution and is SOB enough to devote his "own free time" to beating the problem.

An SOB has a thinking time and a doing time. The thinking comes before the doing and in his thinking he is not too stiff-necked to borrow someone else's brains. If an idea has merit he uses it, regardless of where it came from—and he gives credit to his source, for his source may be another SOB in the making.

I doubt if a school for SOBs could ever be established. At best, it would only point a man in the right direction. And a formal school would soon become a mill for turning out more of the same product that other schools produce. No, I think it can only be taught by the pupil-tutor method. What is more necessary is an environment conducive to generating this type of man. An environment which would allow the company grade SOB an opportunity to display his stuff before the rug was pulled out from under him.

An SOB may not be the most popular kid in town but he is the medicine needed to keep the patient well. No smooth-running outfit ever got that way by gravity alone—a pusher was needed to get it rolling and a pusher is needed to keep it going, and only an SOB from the word go is that kind of a guy.—END



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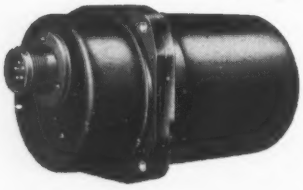

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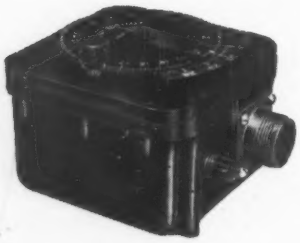

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jected to the June 1956 date, almost 80,000 will be men who have not yet finished their first enlistment! No matter how inspired its leadership or efficient its planning and training, it's tough to maintain combat capability in an organization as complex as SAC when it is manned with recruits.

Obviously conscription, under the guise of Universal Military Training, is not the answer to the Air Force's manpower problem.

Whose problem does it answer? The Navy, being a highly technical service, is in about the same position as the Air Force. Conscripts can't run a carrier.

The Army has always been solidly behind universal conscription because its traditional need has been for bodies. But the Army is getting pretty complex these days. It is highly mechanized, has a lot of electronic gear, is up to its ears in the guided missile business. The value of six-month trainees to today's Army is highly questionable and Army men will admit it privately. But they have alway felt it would be to their advantage to get the statute on the books in the hope that the training period could be extended at a later date, once the need for longer training was made apparent through trial and error.

From the standpoint of the Reserves, the need for conscription is equally vulnerable. In the first place, the present Reserve program provides neither equipment nor facilities for all the people it now has on the rolls. The feeding of mere bodies into an already inadequate training structure would be boondoggling, indeed. The Reserve needs men, but it needs a high percentage of trained men. Certainly the Air Force Reserve has little requirement for six-months' trainees. It can keep trained men pretty well current, but green hands in copious quantities would be a liability. For example, a six-months' trainee, nineteen years of age, who went into the Reserve program and trained on the basis of forty-eight drill periods and two weeks of active duty each year would be almost eighty before he had put in as much training time as he would have in one four-year enlistment. This presumes, of course, that he would still be physically fit for duty and had not elected retirement.

Nor would conscription of the six-months' variety have prevented the mass involuntary recall of Reservists during the Korean war. At least not as far as the Air Force is concerned. For the majority of those called back were in critical spec numbers, particularly air crews. Even had we had UMT since the end of World War II, it could not have provided the trained men required for the emergency. Hence its value in a future crisis is, shall we say, open to question.

It is conceivable, however, that a UMT law with real teeth in it might ease the Air Force's recruiting problem. Over the past several years, even since Korea, in fact, the number of volunteers for Air Force enlistments has ebbed and flowed with the draft. As draft calls went up, so did Air Force recruiting. Witness the period of exactly four years ago, when in December 1950 and January 1951 more than 76,000 youngsters poured into the Air Force. Remember the so-called scandal of tents and mud at Lackland at that time? And the majority of these men came into the Air Force because the draft was breathing down their necks.

This is an interesting sidelight, because these men are just now finishing their four years and, with reenlistments still running less than twenty percent, Air Force recruiters are working overtime to replace them. The mere fact that UMT with a six-months' option has been discussed by Administration spokesmen has undoubtedly caused many a prospective Air Force recruit to say, "I think I'll wait a while and see what happens."

If UMT were to discard the six-months' option and hold to a minimum of two years' service, it is conceivable that the pressure might push more youngsters into the Air Force. But the net result would probably be an artificially inflated Army, with more bodies than either its troop ceiling or its mission could conceivably need.

If conscription is not the answer to our military manpower problem, it is entirely right and proper to ask what is? The answer is neither cheap nor simple. It calls for facing realistically a few basic facts, facts which are acknowledged in public policy statements but which too often are ignored in terms of the concrete measures it takes to carry out these policies. Now for a few personal observations:

First of all, we must recognize the revolution in weapons and strategy which Field Marshal Montgomery so cogently discussed in this magazine last month. We must gear our manpower requirements to this revolution instead of to the outmoded principle of "equity of service," which calls for a fowling-piece over every man's mantel.

Certainly there is an "equity of obligation" to help defend this nation on the part of every citizen. But it need not follow that this equity be interpreted as meaning equity of service. In fact, equity of service, if carried to its logical conclusion, should not be limited to males between the ages of 18½ and 26½. I know one manpower expert who proposes (privately but only partially facetiously) that UMT should logically be supplemented by a program he chooses to call "DDT"—"Draft Daughters, Too."

A better solution, it appears to me, would be to grasp the nettle firmly and adjust the sizes of the active forces of all the Armed Services in line with our stated national policies. This would involve somewhat larger air forces and considerably smaller surface forces. It is entirely conceivable, then, that we would indeed get more bang for a buck, or at least more bang per man. It doesn't take a fantastic stretch of my imagination to conceive that a sizable fraction of American youth may never need to serve at all! Apparently, no one has thought of this possibility, at least not in public.

There are many improvements possible in the personnel policies of the services which could operate to improve the reenlistment rate. If these were coupled with added benefits to make a service career attractive as well as honorable, we would solve our military manpower problem in a way which would obviate the necessity of even talking about conscription.

What is now an onerous duty then would become a proud privilege, worth competing for. We would no longer talk in terms of "who has to go," but "who is allowed to go." And we would have the kind of forces-in-being that begins to make sense in this jet-atomic age.—END

ABOUT THE AUTHOR

The author, who is Managing Editor of AIR FORCE Magazine, is an ex-doughfoot who enlisted in the Third Infantry Regiment in 1940. He was commissioned at The Infantry School in 1942 and served in North Africa and Sicily with the First Infantry Division. He later instructed in tactics at The Infantry School and for three years was Associate Editor of *The Infantry Journal* (now *Combat Forces Journal*). He came to AIR FORCE Magazine from *Popular Science Monthly* in 1951.

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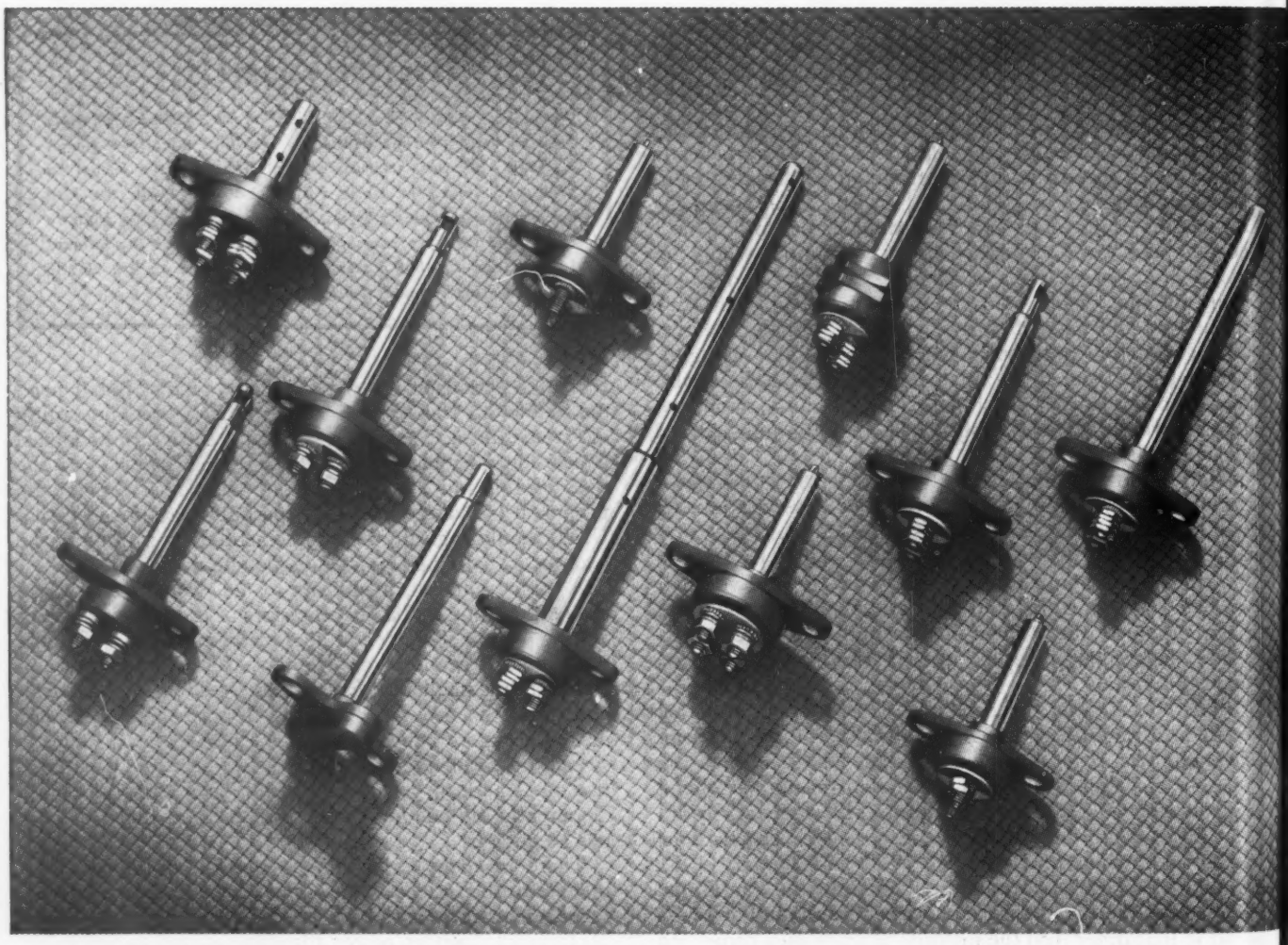

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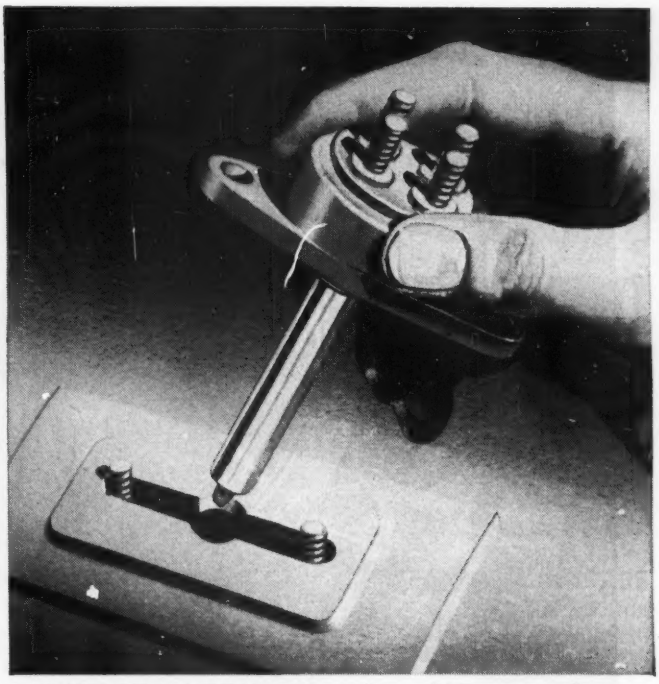

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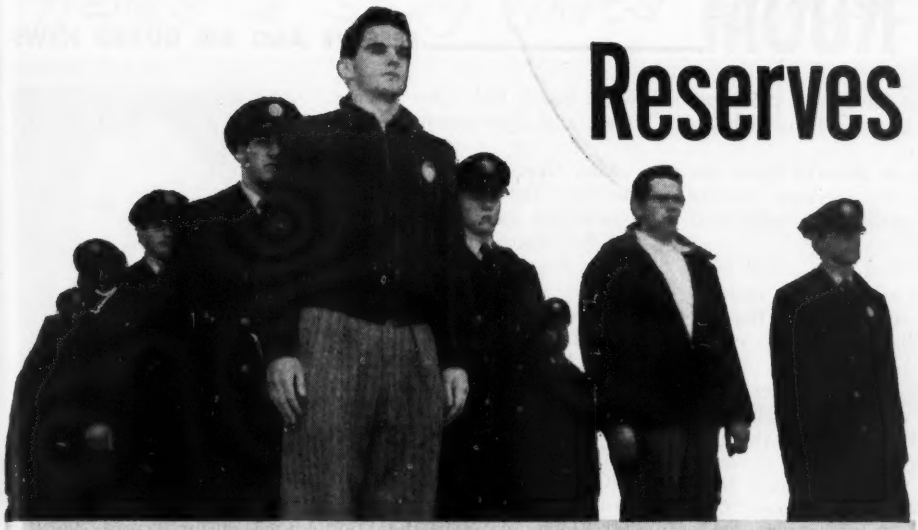


Facilities for the 89th Fighter-Bomber Wing at Laurence G. Hanscom Air Force Base in Bedford, Mass., are almost non-existent. Yet young men continue to volunteer. And recruits turn to for drill even before they are uniformed.

By Edmund F. Hogan

RESERVE AFFAIRS EDITOR, AIR FORCE MAGAZINE

EARLY on the morning of April 19, 1775, Paul Revere galloped through Bedford, Mass., alerting the countryside to the impending arrival of the British Redcoats. His route took him over terrain that now is part of Laurence G. Hanscom Air Force Base, hard by the historic shrines of Lexington and Concord.

A tenant at Hanscom is the 89th Fighter-Bomber Wing, one of six such organizations in the Air Force Reserve.

One weekend a month officers and airmen report from as far away as Maine. The magnet must be the kind of motivation that sent Paul Revere through the New England countryside; it certainly isn't facilities.

Wing headquarters are located in a farm house that must have been standing when Paul made his historic ride. Supply squadron operates from an ancient barn, and the air base group headquarters is housed in what once was a chicken coop.

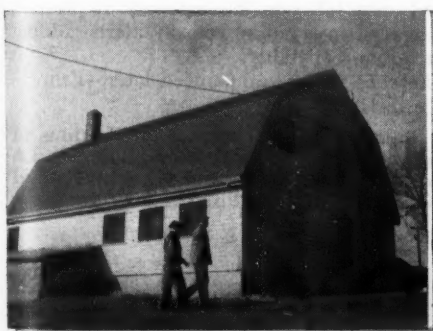
There is nothing simulated about the field conditions under which the 89th has operated since its activation more than two years ago. But despite the need to substitute tents and old farm buildings for the kind of quarters usually associated with a jet flying wing, the 89th has continued to increase the strength of its units. To the commander of First Air Force, Maj. Gen. Roger J. Browne, this connotes the degree of success the Reserve program can achieve.

"It's amazing," he is prone to say when speaking of the 89th, "how these people continue to produce when they don't even have a decent roof over their heads."

He proved the point on a recent blustery New England day when he made a staff visit to the wing, accompanied by Sam Davis, the Air Force Reserve lieutenant colonel who made the photographs on this page.

Better days are in the offing, however. Sometime this year there will be a new administration building (see cut, below) and hangar. When the new facilities are finished, the 89th will have a center more in keeping with the needs of the modern minuteman. And they won't miss the tents and the chicken coop.—END

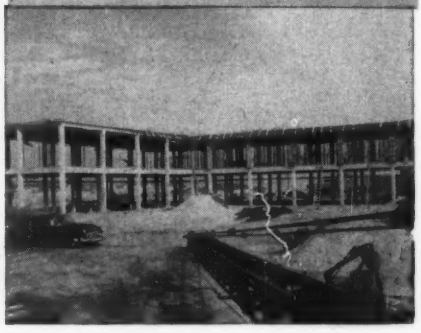
This farm house, of pre-Revolutionary vintage now houses headquarters of the Reserve wing



The supply building is a barn that Paul Revere might well have passed.

The tent area is best described as cold in winter, hot in summer.

A new administration building will be ready later this year.



The READY ROOM

RESERVE AND AIR GUARD NEWS

Operation of the Air Force Reserve for fiscal year 1954 cost approximately **$130 million,** according to a comprehensive financial statement released by the Pentagon.

The report reflects increased **emphasis on Reserve flying activity.** More than $27 million was spent for increases to the aircraft inventory, and more than $11 million was obligated for construction at wing installations.

The report, first of its kind and produced as a result of a Johnson Board recommendation, includes all operating costs of the Reserve but excludes the financial support given the Air Guard, Air Force ROTC, and Civil Air Patrol.

• • •

USAF has come up with a new policy to give **airmen** being released from active duty **specific Reserve assignments.** The plan contemplates selective assignment to Reserve flying wings of those airmen who have legal obligation to serve in the Reserve.

Any airman who enlisted **after June 20, 1951,** has a total military service obligation of **eight years.** He must serve four years on active duty and four in an active Reserve status. This year Air Force estimates it will release **140,000 airmen** who must become active in the Reserve program.

The obligation to participate in the Reserve has not been enforced, but USAF believes that by stressing such points as pay and opportunity for promotion, most of the airmen will accept a Reserve assignment upon release from active duty.

• • •

Continental Air Command has been authorized **seventy-five direct commissions** for Air Reserve airmen. To qualify, airmen must meet the age and physical qualifications outlined in AF Manual 36-5 and not be subject to draft induction. In addition, they must have completed at least one year's participation in the Reserve training program.

Two other conditions are attached to qualification. The airmen must agree to continue to participate in the Reserve program, and, in the event of an emergency, accept active duty in their officer rank.

• • •

Ten additional **Air Reserve training centers** have been activated and another eight are scheduled to be opened this month.

The new centers in the **First Air Force Area** are located at Trenton, N. J.; Charleston, W. Va.; Worcester, Mass.; and Mitchel AFB. In **Fourth Air Force**—at San Jose, Calif.; Fresno, Calif.; and Spokane, Wash. In **Tenth Air Force**—at Wichita, Kan., and Grand Rapids, Mich. In **Fourteenth Air Force**—at Little Rock, Ark.

The eight to be opened **this month** are at Toledo and Cincinnati, Ohio; Tacoma, Wash.; Phoenix, Ariz.; San Diego, Calif.; South Bend, Ind.; Des Moines, Iowa; and Albuquerque, N. M.

• • •

Maj. Gen. George G. Finch

Maj. Gen. George G. Finch, the first Air National Guardsman to become a general officer and first chief of the National Guard Bureau's Air Force Division, has **a new first** to add to his record. He has been named commander of **Fourteenth Air Force,** headquartered at Macon, Ga., the first Air Guard officer to head up a regular Air Force.

General Finch, presently Deputy Commander of ConAC for ANG Affairs, will take command of Fourteenth on February 1. A native of Georgia, General Finch served in the Middle East during World War II. After the war he returned to his law practice in Atlanta until he accepted recall to active duty in 1948 to become head of NGB's Air Force Division. In 1951 he transferred to ConAC.

A command pilot, General Finch served as the Air Force member of the truce negotiating team in Korea in 1953.

• • •

A number of **Air Force ROTC graduates** who received ANG second lieutenant commissions last summer may serve their tours of active duty as **research engineers** with the **National Advisory Committee for Aeronautics.**

NACA, which has openings for young engineers in many vital research projects, has asked Air Force to make available from the ROTC group those who are qualified to fill the vacancies. Of almost 4,000 second lieutenants in this group, more than 400 have engineering degrees of the type NACA needs.

• • •

The Air National Guard and Air Reserve will be invited to participate in a major **Air Defense Conference** at Colorado Springs on February 12.

The Conference, to be sponsored by the **Air Force Association,** will be geared to the defense mission of reserve components. The theme will be of direct concern to those Reserve and Guard units whose **primary mission is defense** and which are tied into the Air Defense Command net.

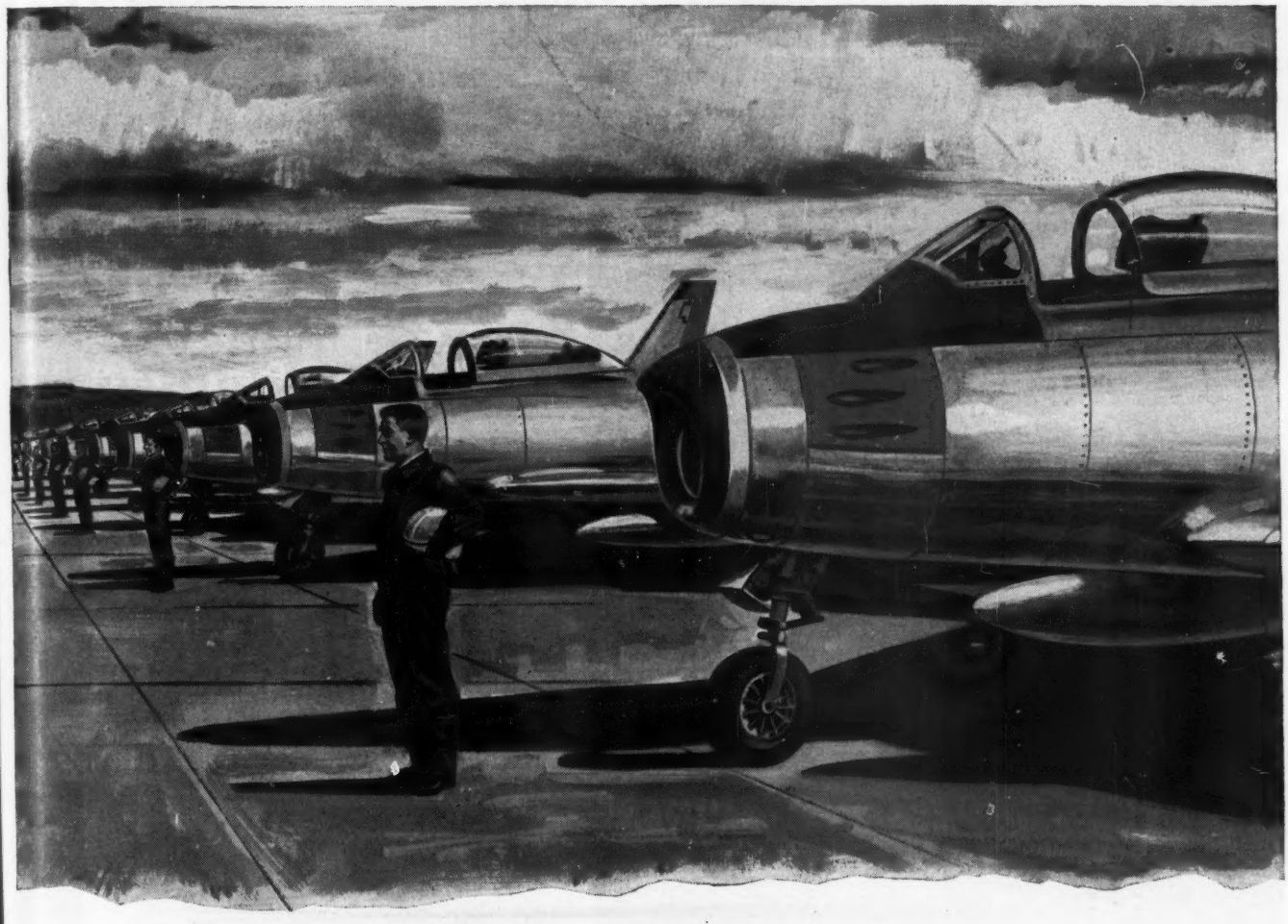
A number of Guard units fall into this category at present, with pilots actively engaged in standing runway alerts, adding to the country's interception capability.

Details of the Conference will be announced later.—END

The first ANG nurse assigned to the Minnesota ANG, 1st Lt. Ernestine St. Lawrence, is welcomed to Holman Field, St. Paul, by Maj. Charles Kelly of the Guard's Tactical Hospital, and Col. John Dolny, CO, the 133d Fighter Wing.

Honoring film star Ronald Reagan for his contributions to the AF Reserve Training program are, from left, 1st Lt. Myron Healy, Lt. Col. Clifton Troxell, and M/Sgt. Leonard Nauman, all from North Hollywood's 9335th AR Squadron.

Here's a Story that's almost a Tradition...



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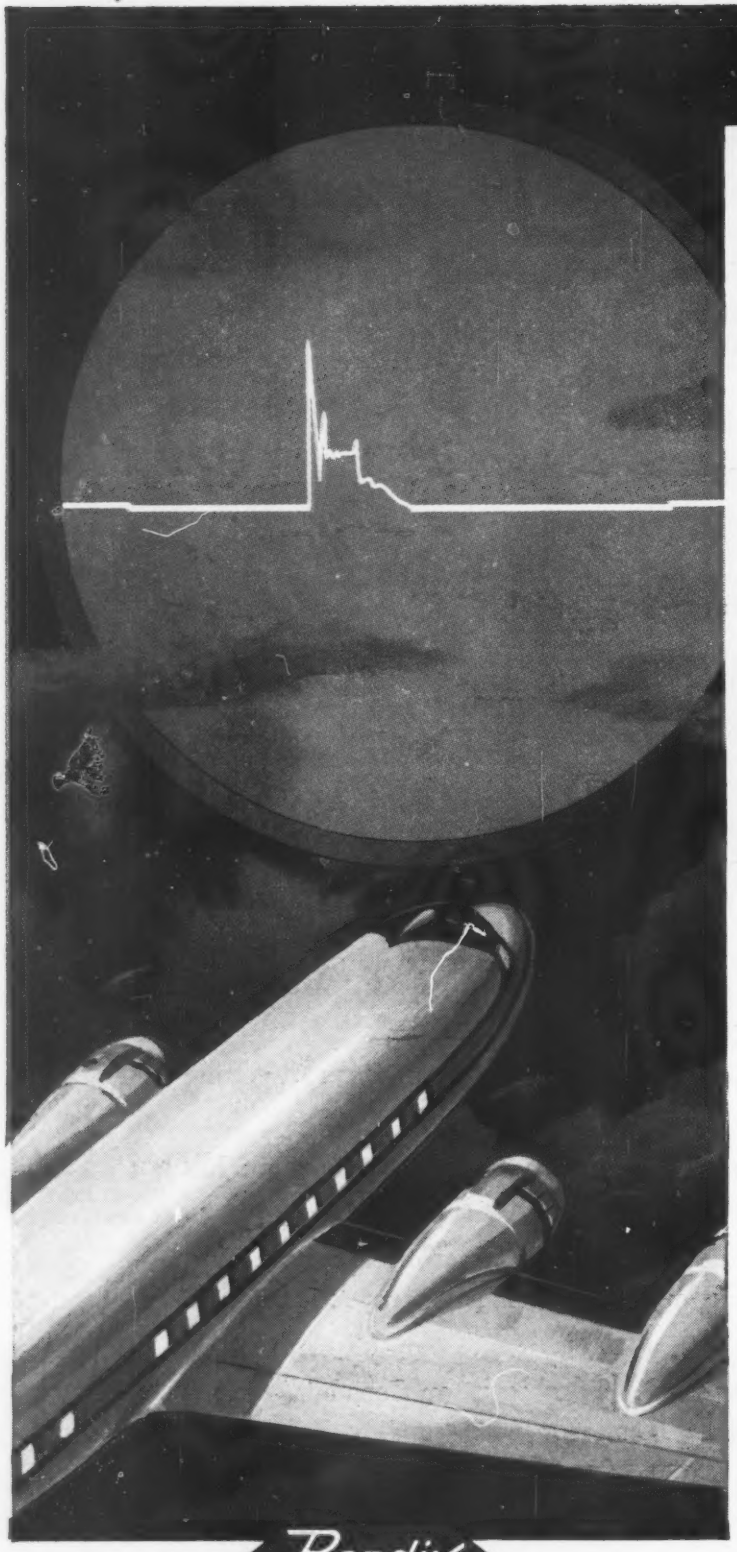

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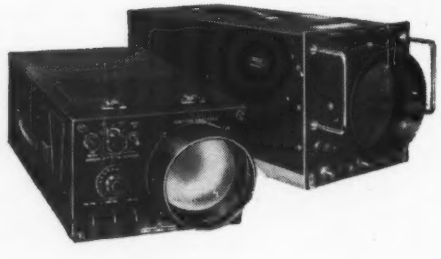

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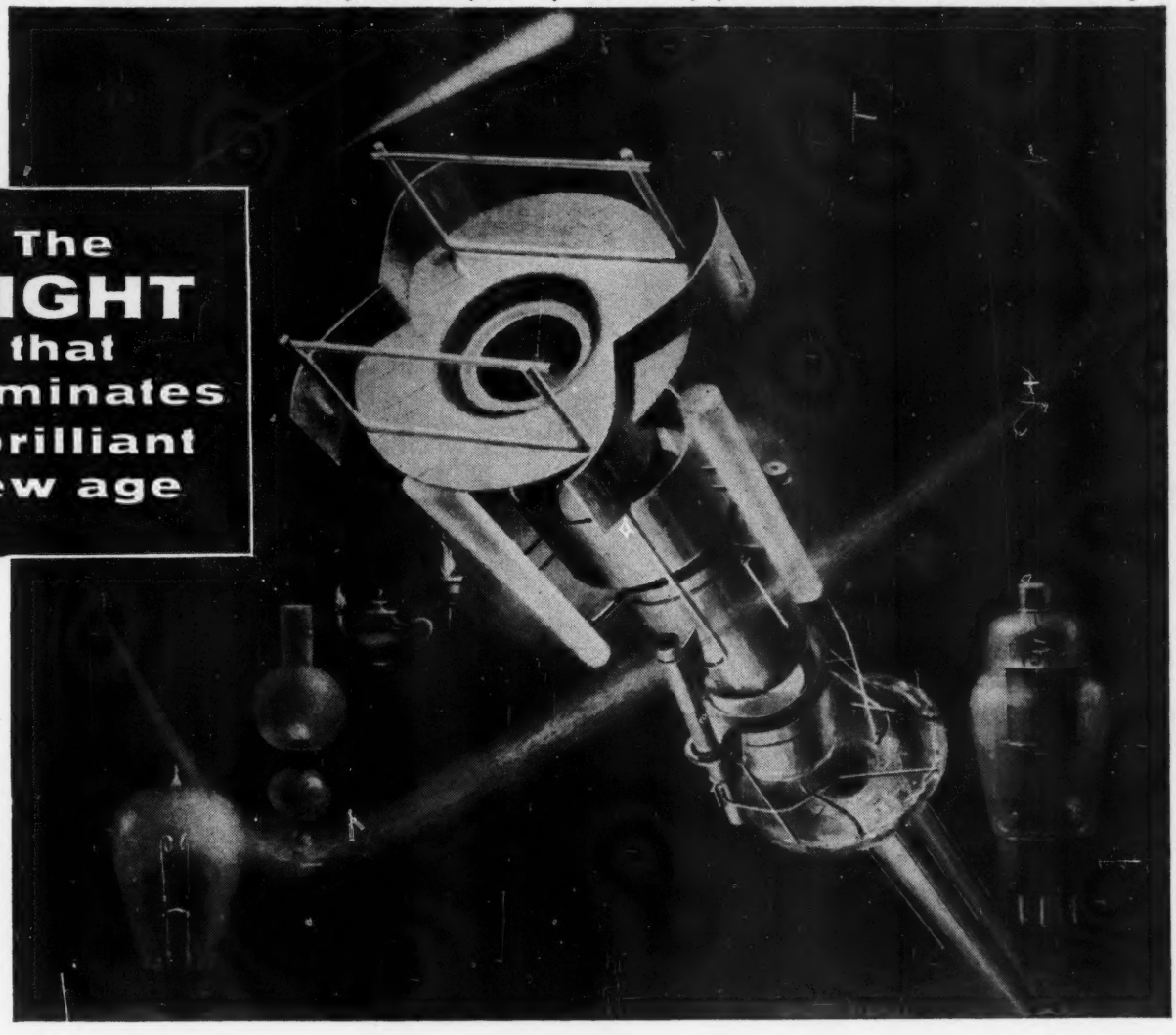

The LIGHT that illuminates a brilliant new age

Vision first lights the way. Then progress follows. Now the cathode-ray tube developed by the Allen B. Du Mont Laboratories floodlights a new "telectronic" age!

It shines deeper into the secrets of the natural world than man has ever seen before! It "sees" into the structure and action of heart, brain and nerve, without risk or discomfort to human beings. And the pictures revealed on its tube screen give pertinent information for better diagnosis and research.

It "sees" into the heart of airplane engines ... actually *picturing* the efficiency of metals and parts in action. And the picture-reports from the cathode-ray tube screen make airplane engines safer and better.

It "sees" into the fog and darkness in the form of radar, sonar or loran. And the picture it returns is our nation's safeguard against surprise attack ... our guide to safer traffic on land, sea and air, today and in the future.

Into business, industry and national defense shines this new light ... seeing and reporting things, facts, actions with such fantastic speed and accuracy that entirely new methods become possible. Completely automatic factory operations! Automatic controls of quality! Mathematical computations a million times faster than those of the human brain!

With these new "telectronic" tools and many more—mankind will develop a new and far better economy ... with greater productivity, higher quality, less waste and error, greater national security, and a higher standard of living for all men.

The Du Mont Laboratories, pioneers of this new "telectronic" age, are equipped by their great fund of experience to make it more immediately profitable.

Du Mont, the most respected name in television, has long been the world's largest producer of cathode-ray instruments. Du Mont scientists and engineers are consulted constantly by the scientists of industry, independent laboratories and government agencies. And Du Mont is winning increasing stature in all fields of telectronics, television receivers and transmitting equipment, television network and government service.

Think first of Du Mont ... first in progress through *vision!*

Write for free 40-page booklet, "THE STORY OF TELEVISION", Allen B. Du Mont Laboratories, Inc., Executive Offices, 750 Bloomfield Ave., Clifton, N. J.

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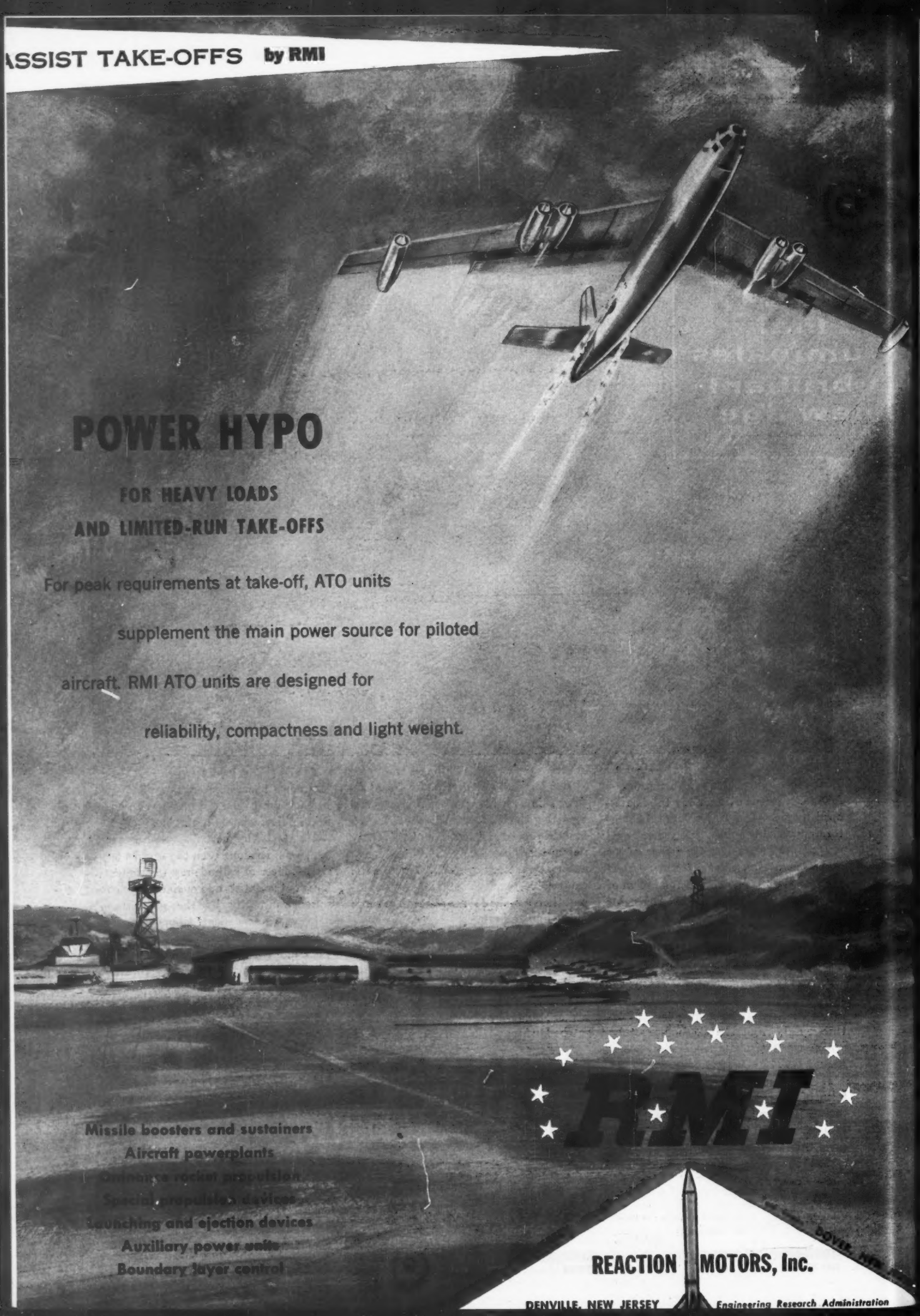
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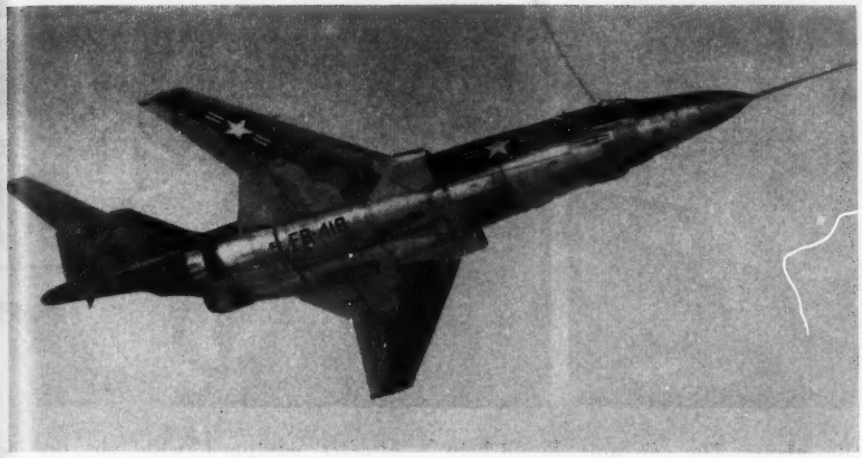
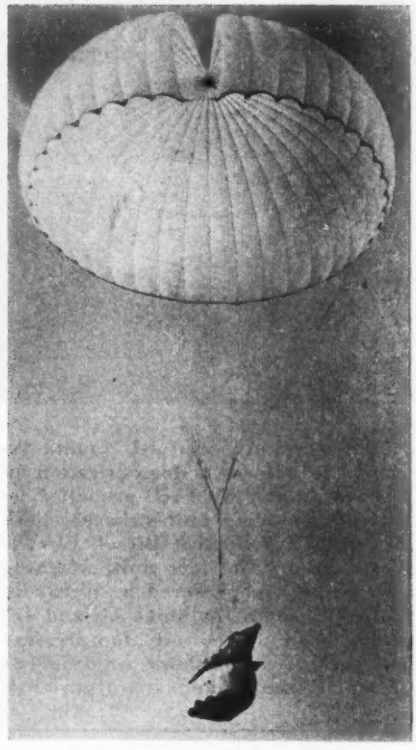
Tech Talk

By Lee Klein



The McDonnell F-101A Voodoo. The new long-range fighter was designed to escort SAC bombers. Two Pratt & Whitney J-57s give it 20,000 lbs. of thrust.

The public has had its first look at the **McDonnell F-101A Voodoo,** a big new fighter slated to go to SAC. Developed from the XF-88, the Voodoo was designed to meet the AF's requirements for a **long-range fighter.** Its sweptback wings have a span only slightly larger than the F-86 Sabrejet's, but it is almost **thirty feet longer.** The new fighter carries most of its large fuel load in the fuselage and can carry extra fuel externally, making it able to escort strategic bombers or tote atomic weapons itself. While the Air Force hasn't yet released performance figures, observers estimate that the Voodoo's two **Pratt & Whitney J-57 turbojet engines,** which produce a total of 20,000 pounds of thrust, put it in the **800-mph class.** McDonnell recently received an AF contract for more than $100 million for production of additional Voodoos—the first major AF contract awarded to the company, famous for its Navy fighters.



A rocket motor, used for added take-off power and then jettisoned, floats down to a gentle landing in England.

The Bell X-1B recently joined the X-1A at Edwards AFB, Calif., for use in the AF's high-speed, high-altitude research program. Both are rocket powered.

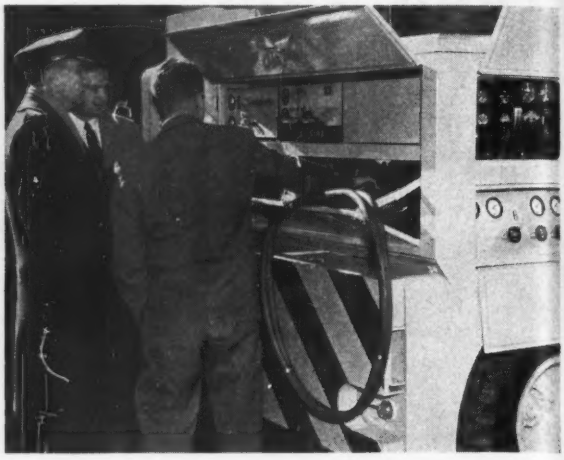
The AF's Piasecki YH-16 Transporter in its first test flight at altitude.

British nuclear experts are optimistic about solving the principal problems in the production of **atomic-powered aircraft** within the **next five years.** They say that such planes may actually be flying in ten or fifteen years. The Atomic Energy Authority (British equivalent of our own AEC) is studying two or three different types of nuclear reactors at Harwell. Rolls-Royce and other private firms have assigned engineers to study developments at the British atomic research center.

According to the Authority, the problems of developing a metal strong enough to withstand the terrific heat and radioactivity generated by an atomic reactor are well on the way to being solved. They also said that it is likely that the engine finally developed will be a **turbojet rather than a propeller-type,** and that the first aircraft to be equipped with it will be a **large flying boat**—possibly modeled after the huge British Saunders-Roe "Princess."

The Department of Defense, with the cooperation and assistance of all the services, is currently working on a project to find some nearly perfect "**motion sickness**" remedies for use by the armed forces. In one of the largest mass testings of drugs ever undertaken, some 10,000 volunteers on troop carriers will swallow various capsules to test their effects. Principal investigator for the project is Dr. Herman I. Chinn of the **AF School of Aviation Medicine.** He and his Army and Navy associates will make ten trans-Atlantic crossings on troop carriers to carry on the investigation. They hope to

(Continued on following page)



We were in Stamford, Conn., recently to witness a demonstration of the new Model 3000 self-propelled jet aircraft servicing unit (above), built by the Consolidated Diesel Electric Corporation. The new unit, weighing seven tons and powered by a 165-hp Ford V-8 engine supplies AC and DC power, compressed air, low-pressure gas turbine air, and air conditioning to jets on the ground. It will also tow the planes. The new unit should help ease the Air Force's man-power problem (one man can operate it) and help relieve the clutter of separate units now performing these various functions. The 400-cycle, AC power of the unit is used to check the fire control and computer systems while the 28½-volt DC power tests DC systems and starts electric-starting airplanes. The turbine air is used to start aircraft equipped with air turbine starters and is also directed to an expansion-type refrigeration unit for cooling electronic compartments and the cockpit while on the ground. The high-pressure air supply is utilized for filling air receivers and for servicing struts, tires, and accumulators. Photos show Consolidated's engineers explaining the unit to AF and press representatives.

discover a drug that will give maximum protection against "motion sickness" with a minimum of such unpleasant side effects as drowsiness, headaches, and blurred vision produced by some present remedies. These side effects represent a hazard to the combat-readiness of men in an amphibious or airborne landing.

High-altitude jet pilots will soon be eating better. A **banana puree**—soon to be available in Air Force dining halls—has been produced after eighteeen months of research by industry at the request of the AF Food Branch, Hq. USAF. High-altitude flyers in full pressurized equipment will be able to drink the high-energy food through their oxygen masks by using plastic tubes.

Developments in light sensitive elements over the next decade may make **small personal radio transmitters** and receivers a reality, according to a development engineer at **General Electric Co.** Edward Keonjian, who made the prediction, has built a **solar-powered** experimental radio transmitter, about the size of a pack of cigarettes. It uses transistors instead of electron tubes and selenium solar energy converters instead of batteries. Sufficient electrical energy is produced to operate the transmitter when light rays strike the selenium.

Transistors made the news again when **Bendix Aviation Corporation** announced the first successful flight of an airplane controlled by an automatic pilot using transistors entirely instead of electron tubes. More tests with the system, the PB-20 automatic pilot developed by the Eclipse-Pioneer Division of Bendix, are being conducted at Teterboro, N. J.

Air Force scientists can take a look at what happens to different types of high-explosive **shells fired at high altitude** and high speed in a new armament test cell to be built at the **Arnold Engineering Development Center** in Tullahoma, Tenn. Television, motion picture cameras, and other instruments will record the effects of a high-explosive shell as it hits a typical wing section. Altitude conditions up to 60,000 feet and a temperature range of from 90 degrees below zero to 160 degrees above will be created in the cell.

A new way to cool the skin of high-speed aircraft and missiles was described at the latest meeting of the American Society of Mechanical Engineers in New York. Taking its cue from the cooling process of the human body—perspiration—the aircraft would be constructed of a **porous material** through which a fluid could be pumped to surfaces to be cooled. Other ways of cooling metals were suggested (aluminum melts at Mach Five and steel at Mach Six), but the perspiration method is considered a promising approach by engineers in spite of the complications in design that it would entail.—END

The "Zero Length Launcher," a launching device for the Martin B-61 Matador missile, operates in an area of only 100 feet square, is towed mobile unit.

New Turbine-Powered Cargo Carrier

hauls big pay loads faster

Allison T56 Turbo-Prop Engines Power New Lockheed YC-130 Transport

The initial flight of the YC-130 Medium Cargo Transport marks another great forward stride in transport aviation.

This giant carrier, built by Lockheed for the U. S. Air Force, is the first U.S.A.F. cargo plane designed from the very beginning for Turbo-Prop engines.

Powered by four of the new Allison T56 Turbo-Prop engines, this great new cargo airplane can haul heavy pay loads long distances at speeds required by our new modern combat jet Air Force. It is ideally suited to carry many types of heavy military equipment, on either long-range operations or in close support of troops. It also can be fitted as a combat troop carrier or an ambulance plane. The YC-130 can operate from shorter runways with greater rate of climb than either reciprocating or Turbo-Jet engine aircraft.

All this, plus its economical use of lower cost fuel, label the Turbo-Prop engine as the "work horse" power for future transports. And Allison, with its unmatched experience in high-powered Turbo-Prop design and manufacture, today offers both T56 and T40 engines to serve a broad range of modern flight requirements.

GM GENERAL MOTORS Allison Division of General Motors, Indianapolis, Indiana

Here's to the Ladies, Bless 'em!

A CROSS-COUNTRY ROUNDUP OF NEWS OF THE BUSY LADIES IN AFA'S AUXILIARY

No one could accuse AFA's new **National Auxiliary** President, **Nancy W. Scherer,** of having shirked her duties since taking office. On November 6 she attended the first meeting of the new AFA Board of Directors in Washington, of which she is an *ex officio* member. The next day she presided at an Auxiliary Board of Governors meeting in Chicago, attended by Governors from the midwestern states. And in addition, she has attended many local meetings.

The **Chicago meeting** resulted in some important actions. **Marietta Miller,** past President, was unanimously elected Chairman of the Board, replacing Mrs. Jimmy Doolittle. **Several amendments** to the Auxiliary Constitution, concerning Associate and Service Members, and dues payments, were approved. The Board also discussed a nation-wide membership tea, to be held in February. The next meeting of the Board will be held in **Los Angeles.**

Individual Auxiliaries have been busy, too. The **San Fernando Valley** "Kiwiettes" participated in the Squadron's second anniversary dinner, at which both Mrs. Scherer and AFA President John Alison were present. In Chicago, Vice President Beulah Carr presided at the **Great Lakes Region** Auxiliaries' meeting on November 14, which brought together representatives from Illinois, Michigan, and Indiana. Also in November, the **Michigan Wing** Auxiliaries met in Dearborn at the call of the Wing President, Frances E. Karr.

The Pennsylvania Wing Council meeting in Altoona resulted in the appointment of several committees by Wing President Kathleen Murray and the adoption of a permanent installation procedure for state units to follow.

The **California Wing** Council met in Long Beach, and, among other things, approved plans for a President's Tea to be held in November, honoring National President Nancy Scherer. Dorothy Myers presided at the meeting.

The **Illinois Wing** treasury is healthier by about $1,000, as a result of the recent **Air Festival,** held at **O'Hare AFB,** outside Chicago. The Festival consisted of a ten-day display of aviation equipment and aircraft, plus flying exhibits, and a "midway" complete with concessions and rides. Profits from the latter two activities paid the expenses of the entire Festival, and the remainder was divided equally among four funds—AFA's Illinois Wing, the base Airmen's Mess, Officer's Mess, and the base Welfare Fund.

The primary purpose of the festival was to demonstrate the facilities of O'Hare, plus the part that the **30th Air Division,** based there, plays in the nation's defense. Col. Oris B. Johnson, the Base Commander, reported that both missions succeeded.

John L. Carr, Illinois Wing Commander, was in over-all charge of the hard-working committees. Among the AFA members who worked long hours with men from the base to make the program a success were George Anderl, Leroy Kwiatt, Bill Bergstrom, Ralph Jones, and Morry Worshill.

Headed by Nebraska's lieutenant governor, Charles Warner, and Lincoln Squadron Commander, Glenn Yaussi, a **group of Lincoln men** have made a trip to Davis-Monthan AFB, Ariz., to greet the **307th Bomb Wing** on its return from Okinawa. The wing is to be stationed at **Lincoln AFB** after getting new equipment, and the twelve-man delegation

(Continued on page 59)

SQUADRON OF THE MONTH

The Illinois Squadrons

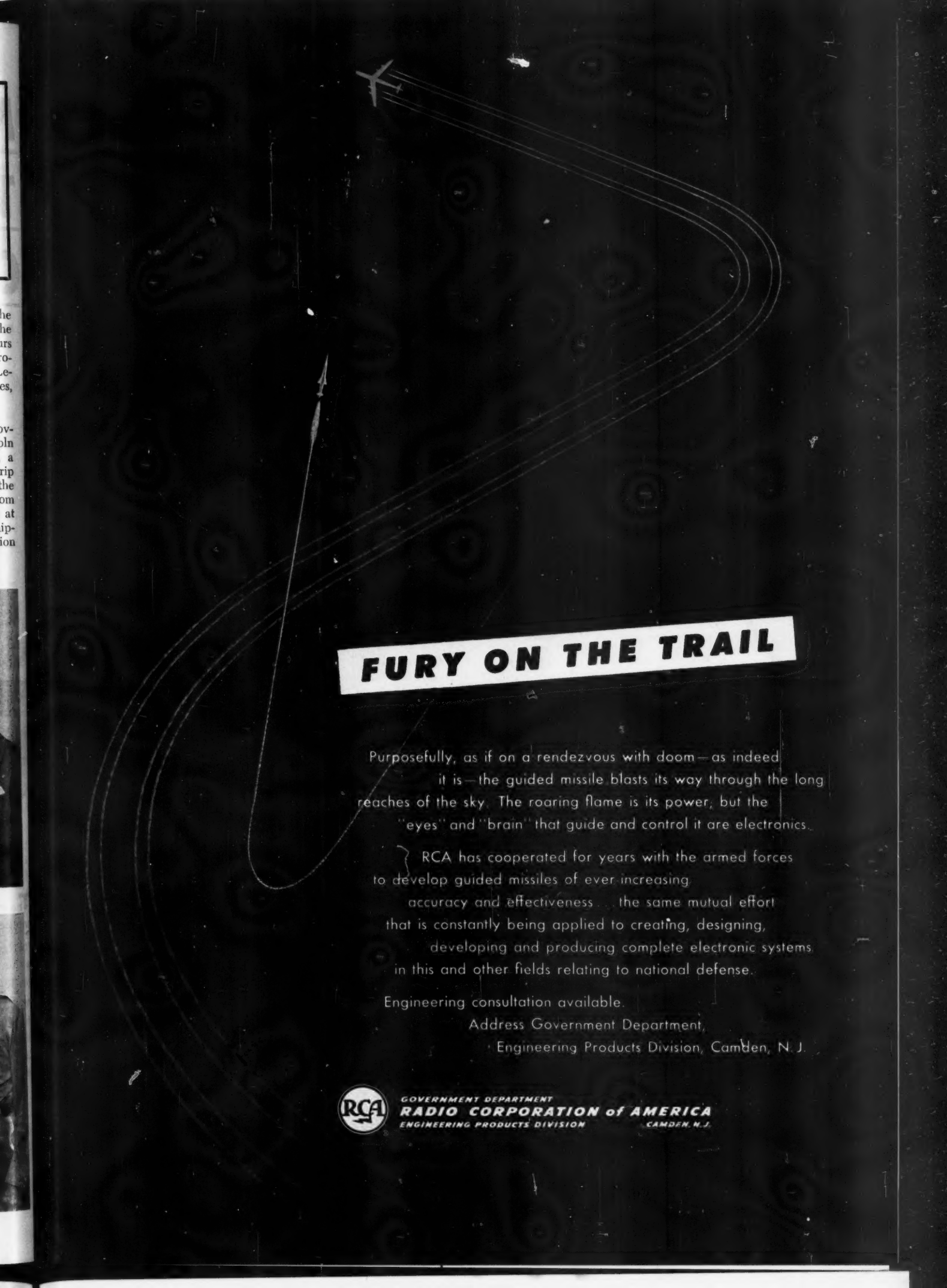
CITED FOR

co-sponsoring the Air Festival at O'Hare AFB, which contributed to a better public understanding of the Air Force and built up Squadron funds and funds for Base personnel.

At right, San Fernando Valley Sqdn. Cmdr. Curt Christensen with Auxiliary President Nancy Scherer and President Alison at the unit's anniversary party.

Below, an F-86D was one center of attraction at the Air Festival co-sponsored by the Illinois Wing of AFA and personnel of O'Hare AFB, outside of Chicago.

Right, below, Col. Oris B. Johnson, O'Hare AFB Commander, congratulates Herman Ziebell, who won a trip to New York City, courtesy of United Air Lines.


FURY ON THE TRAIL
Purposefully, as if on a rendezvous with doom—as indeed it is—the guided missile blasts its way through the long reaches of the sky. The roaring flame is its power, but the "eyes" and "brain" that guide and control it are electronics.
RCA has cooperated for years with the armed forces to develop guided missiles of ever-increasing accuracy and effectiveness . . . the same mutual effort that is constantly being applied to creating, designing, developing and producing complete electronic systems in this and other fields relating to national defense.
Engineering consultation available.
Address Government Department,
Engineering Products Division, Camden, N. J.
RCA
GOVERNMENT DEPARTMENT
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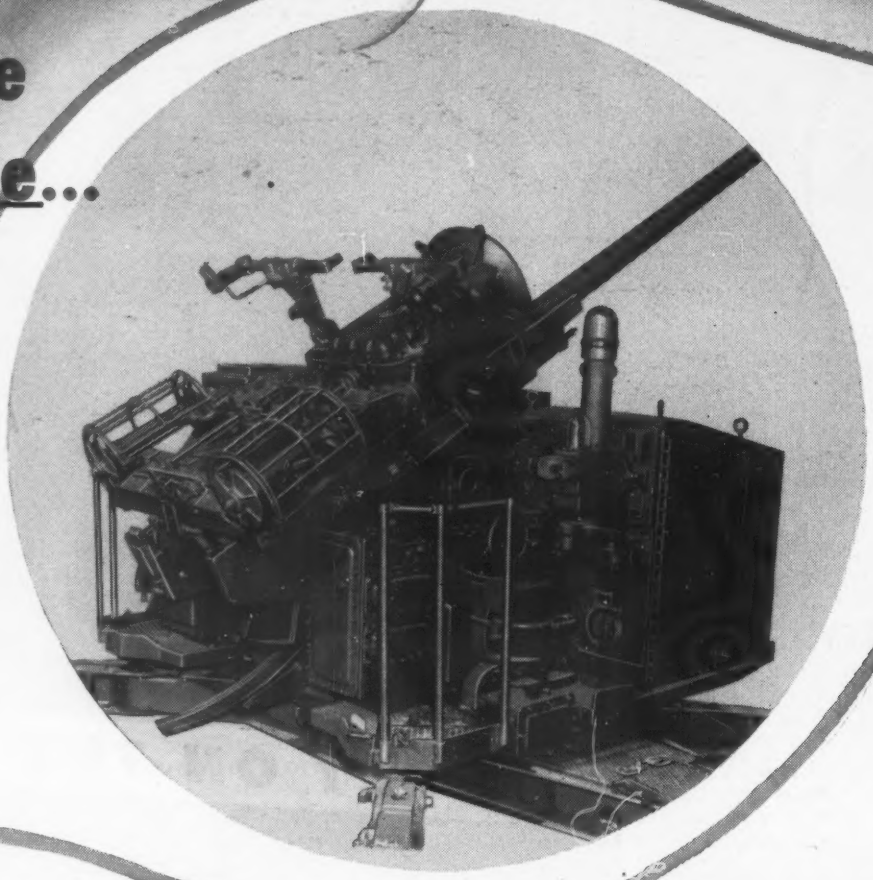
AC builds brains for the Big Eye...



At strategic spots throughout the country you'll find them—the "big eyes" of America's defense. What are they? These T-38 Skysweepers are radar "eyes" that automatically sweep our skies in a never-ending vigil.

The "brains" are fire control units—one of the most important electro-mechanical devices yet developed—which can spot, track and fire at any planes within their line of sight.

AC is proud of its contributions to development of the "big eye," and proud of the AC mark stamped on these complex units.

This is just one more example of AC's demonstrated ability in the electro-mechanical field. Do you have a problem of this nature? Let AC lend a hand. Why not give them a call now?

This AC-developed machine reduced test time from 40 hours to 2 hours per unit

AC DEFENSE PRODUCTS

GM

AC SPARK PLUG DIVISION
—THE ELECTRONICS DIVISION OF GENERAL MOTORS
FLINT, MICHIGAN

DEFENSE PRODUCTS of High Quality at Low Cost DELIVERED ON TIME

Shown at Davis-Monthan AFB are Lincoln AFB Commander Col. Wm. Gillespie; Jerry Bush; Frank Harrington; Lincoln Sqdn. Cmdr. Glenn Yaussi; Mrs. Robert Christie; Col. Christie, C. W. D. Kinsey, and Dick Chapin (see text).

made the trip to assure wing personnel that the city would welcome them to Lincoln.

Col. Robert Christie, the Wing Commander, received the details of the "Lincoln Plan," whereby a serviceman may purchase a home in Lincoln with no fear of losing his down payment if he's transferred, and said, "These men did a terrific job in selling Lincoln to my wing."

Beside Yaussi and Lieutenant Governor Warner, the group from Lincoln included Dick Chapin, Squadron public relations man; Harold Hines; and C. W. D. Kinsey, chairman of the Citizens' Air Base Committee, formed to work with the men of the 307th in getting them settled in their new homes.

The official charter of the **Northwest Oklahoma Flight** was presented to Commander **Frank Peipinbring** last month, during a ceremony at Enid's City Hall. Mayor **George Streets** made the presentation in a program that was broadcast and telecast throughout the area.

Maj. Vincent Chiado, Plans and Training officer of the Oklahoma Reserve Center, was a guest, and welcomed the Flight to Enid with brief remarks. Clyde Dains, Flight Secretary, was one of the original spark-plugs of the organizational program.

Peipinbring, who lives at 1222 East Maine, reports unusual interest in the Flight's activities, and promised that AFA will be hearing a lot from his unit.

The Wright Brothers Memorial Squadron of Dayton continued its series of fine programs last month with the presentation of the **Wright Aviation Award** to **Lt. Col. Julian B. Cross** for his "outstanding efforts on behalf of the Air Force in Dayton." Colonel Cross is chief of the AMC Office of Information Services, at Wright-Patterson AFB.

This was the first time the award had been given. **Fred Goulston,** Squadron Commander, made the presentation at a dinner in the Van Cleve Hotel. Among the honored guests were Gen. Edwin W. Rawlings, Commander of the Air Materiel Command; Jerome Meyer, AFA National Director; and Harry Hall, from the Dayton Chamber of Commerce.

For the second year, a major aviation event of the year in Boston was the **Boston Squadron's Airpower Banquet** and Ball at the Boston City Club. The pro-

(Continued on page 61)

Left. Maj. Vincent Chiado looks on as Mayor George Streets of Enid, Okla., at left, presents Enid Flight Charter to Frank Piepenbring, the Commander.

Right. Lt. Col. Julian Cross accepts Wright Aviation award from Fred Goulston. Others are AFA Director Jerome Meyer and AMC's Gen. Edwin Rawlings.

INDEX TO ADVERTISERS

A

AC Spark Plug Division, General Motors Corporation 58
Allison Division, General Motors Corporation 55
American Airlines, Inc. 66
Arma Corporation ..... Cover 2

B

Bendix Products Division, Bendix Aviation Corporation.... Cover 3

C

Canadair Limited 49
Consolidated Diesel Electric Corporation 6
Continental Motors Corporation 60
Convair, a Division of General Dynamics Corporation ..... Cover 4
Curtiss-Wright Corporation 46

D

Daystrom Instrument Division, Daystrom, Inc. 38
Douglas Aircraft Company, Inc. (Insert) 33
DuMont, Allen B., Laboratories 51

F

Fairchild Engine & Airplane Corporation, Aircraft Division 22
Fenwal, Inc. ..... 44 and 45

G

Gilfillan Brothers 5
Gloster Aircraft Company, Limited.... 1
Goodrich, B. F., Company..... 8
Grumman Aircraft Engineering Corporation..... 2 and 3

H

Hoffman Labortories, Inc. 11
Hughes Aircraft Company 61

K

Kollsman Instrument Corporation..... 42

L

Laboratory for Electronics 63
Lewyt Corporation 40
Link Aviation, Inc. 20
Lockheed Aircraft Corporation (Insert) 34 and 35

M

Martin, Glenn L., Company..... 19

N

North American Aviation, Inc..... 30
Northrop Aircraft, Inc. 15

R

Radio Corporation of America..... 57
Reaction Motors, Inc. 52
Republic Aviation Corporation 39

S

Scintilla Division, Bendix Aviation Corporation 50
Servo Corporation of America..... 14
Stewart-Warner Electric, Division of Stewart-Warner Corporation 12

T

Twin Coach Company, Aircraft Division 65

U

US Air Force 29

V

Vard, Inc. ..... (Insert) 36

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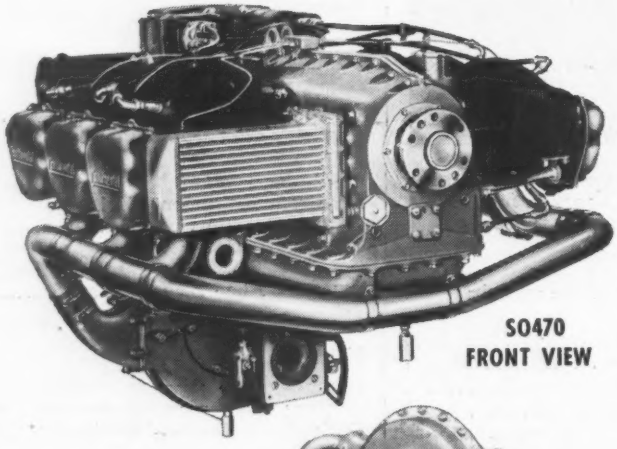
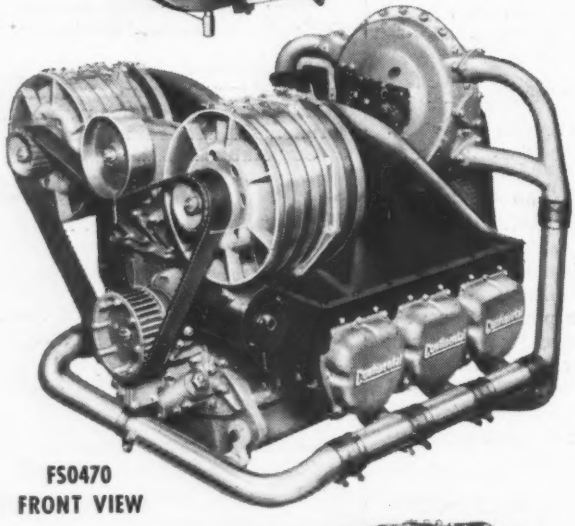
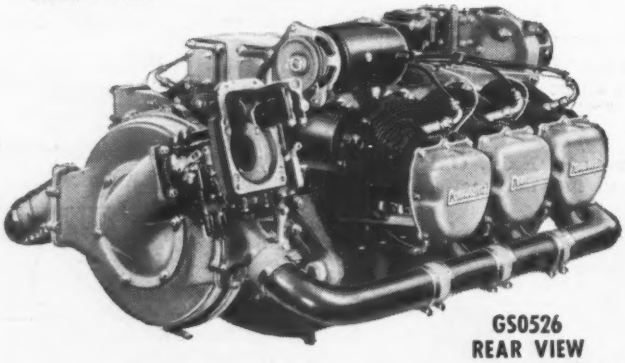
...Tomorrow's Power Today



SO470
FRONT VIEW



FS0470
FRONT VIEW



GS0526
REAR VIEW

Here are three more reasons why tomorrow's finest aircraft, like today's, will fly with Continental power. Two of them represent further developments of the famous 0470 series—one supercharged, the other supercharged and fan-cooled expressly for helicopter use—while the third is a brand new power plant, engineered and built with the needs of multi-engine utility planes in mind. They have one thing in common: as products of the pioneer in power for utility aircraft, all three rate high in those qualities which go to make up dependability—qualities which have made Continental engines fliers' undisputed first choice.

	SO470	FS0470	GS0526
Horsepower	250	260	290
R.P.M.	2600	3000	3000
Alt. (ft.)	10,000	10,000	15,000
T.O. Power (Sea Level)	265	260	320
Length (in.)	37.73	39.64	52.28
Height (in.)	30.77	34.81	23.96
Width (in.)	33.62	33.62	34.68
Bore (in.)	5.00	5.00	5.125
Stroke (in.)	4.00	4.00	4.25
Displ. (cu. in.)	471	471	526
Comp. Ratio	6.0:1	6.0:1	6.0:1
Total Dry Wt. with Accessories (lbs.)	512	550	578
Type of Prop. Drive	Direct	Direct	Geared .688:1
Recom. Fuel Octane	91/96	91/96	91/96
Supercharger Ratio	12.45:1	10.13:1	12.0:1
Supercharger Drive	Belt	Belt	Gear

MEN WHO LOOK TO THE FUTURE LOOK TO THE AIR FORCE RESERVE

CONTINENTAL MOTORS · Powerful as the Nation · AMERICA'S STANDARD ®

Continental Motors Corporation

Aircraft Engine Division

MUSKEGON, MICHIGAN

gram featured the first presentation of the Shuman Memorial Trophy, donated and presented by **E. L. Shuman,** Squadron Vice Commander, in memory of his parents. **Mildred Buck,** Secretary, who also won an AFA award at the last National Convention, was the surprised recipient.

Philipe Coury, Squadron Commander; Edwin Tomawski, Wing Commander; and Thomas C. Stebbins, Regional Vice President, spoke briefly after the banquet. Joseph Ayoub served as toastmaster.

AFA President John R. Alison and Gen. Benjamin Chidlaw, Commander of the Air Defense Command, shared honors at the charter presentation meeting of the **Salt Lake City Squadron** November 23 at the Newhouse Hotel. Allan T. Shott, Jr., Squadron Commander, accepted the charter from Regional Vice President W. Thayer Tutt, during a banquet attended by more than 400 people.

President Alison presented **honorary Wing membership** to Utah's Governor, J. Braken Lee; to Salt Lake City's Mayor Earl J. Glade; and to Brig. Gen. Maxwell E. Ritch, state Adjutant General.

Paul M. Fisher, Utah Wing Commander, was an honored guest at the banquet. Also present were Wing Deputy Commanders and officers of both of the other Utah Squadrons, which are at **Ute** and **Ogden.**

With the chartering of the **Minute Man Squadron in Bedford,** the Massachusetts Wing of AFA adds a fifth Squadron to its roles. **Thomas C. Stebbins,** Regional Vice President, presented the charter on November 19, at a meeting in Bedford.

Harold F. O'Neil, 37 Franklin St., is the Commander. Richard Carter is Vice Commander, and Daniel Mancheton and Ralph Card are Secretary and Treasurer, respectively. The Councilmen are Tyrus Stepp, Norman Torgerson, Elliot Dalton, and Robert Morrison.

O'Neil is a records analyst for the US government in Boston. He's married and has four children. His wartime service was in the infantry, but he's now Commander of the 89th Maintenance Squadron, Massachusetts ANG, at Bedford AFB.

CROSS-COUNTRY . . . New Squadrons are being formed in **Skokie, Ill.,** and **Racine-Kenosha, Wis.** Leroy Kwiatt (Skokie) and Gerald Hayes (Milwaukee) are in charge. . . . The **Massachusetts Wing** Council held a meeting in Worcester last month, with Wing Commander Ed Tomawski presiding. . . . **Lt. Gen. Hubert Harmon,** Superintendent of the new Air Force Academy, addressed members of the **Mohawk, Mo., Squadron** last month. . . . Albert Prudence, assistant editor of the *Cleveland Press,* spoke to the **Cuyahoga Squadron** in October on the "World Crisis." . . . The next **California Wing** Conference is set for Fresno, January 16. . . . **Santa Monica's** "Squadron of the Year" trophy is being displayed in various stores around the city. . . . **Miss Jacqueline Cochran** was a recent guest of the **Santa Monica Auxiliary.**—END

ELECTRICAL ENGINEERS

or

PHYSICS GRADUATES

with experience in

RADAR *or* ELECTRONICS

or those desiring to enter these areas...

The time was never more opportune than now for becoming associated with the field of advanced electronics. Because of military emphasis this is the most rapidly growing and promising sphere of endeavor for the young electrical engineer or physicist.

Since 1948 Hughes Research and Development Laboratories have been engaged in an expanding program for design, development and manufacture of highly complex radar fire control systems for fighter and interceptor aircraft. This requires Hughes technical advisors in the field to serve companies and military agencies employing the equipment.

As one of these field engineers *you will become familiar with the entire systems* involved, including the most advanced electronic computers. With this advantage you will be ideally situated to broaden your experience and learning more quickly for future application to advanced electronics activity in either the military or the commercial field.

Positions are available in the continental United States for married and single men under 35 years of age. Overseas assignments are open to single men only.

Hughes Field Engineer H. Heaton Barker (right) discusses operation of fire control system with Royal Canadian Air Force technicians. Avro Canada CF-100 shown at right.

Relocation of applicant must not cause disruption of an urgent military project.

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SQUADRON OFFICER SCHOOL

Learning How to Stay Loose

Here's how Air Force officers are trained for wars of the future

Courses are based on the principle that knowledge without application is of little value. Above, the principle is applied in a discussion of geography.

By Capt. Bernard R. Marsh and Dr. Donald W. Cox

AS THE large clock on the wall marked the precise hour of 4:30 a.m., an Air Force commander spoke to his officers, assembled in the small room.

"Gentlemen, the missions you are flying today and for the next few days might well be the beginning of the end of action in this theater."

He paused, paced up and down the room, chose his words carefully.

"As you know, intensive counter-air operations against the enemy have reduced opposition in the air to practically nothing. Our Air Force interdiction program has shown a high degree of success; the lack of supplies and reenforcements has limited the enemy armies to only defensive holding actions. The theater commander has determined that now is the time to start our big push north, to throw the invaders out of Korea."

He turned to a map and pointed to a red line running across Korea.

"The plan of attack is for the First Army to launch an attack toward the town of Inje." He drew a blue line from the right side of the battle line up to a small circle which marked the town of Inje, near the eastern coast.

"The Second Allied Army will launch an attack up the Pukhan river and form a junction with the First Army in Inje." Again he drew a blue line, this time from the left side of the battle line to Inje. The blue and red lines then formed a circle.

"If this operation is successful, we stand to trap about 110,000 Red troops in this area. This might well end major resistance in this theater. The primary job of the 177th Fighter-Bomber Wing is to support the Second Allied Army in this operation. However, if enemy air opposition increases, we may have to revert back to counter-air operations, for we *must* maintain air superiority. I cannot overemphasize the importance of the missions assigned this wing. It is imperative that you make good to the second all times over target and you must put your firepower *on the target.*"

He then enumerated targets, and the forces involved in their destruction. The intelligence officer presented the target details, enemy capability, and evasion and escape procedures. The operations officer listed times, take-off procedures, navigational plan, bombing, strafing and rocketry information, and the plan of attack on each target. The weather officer gave weather information en route to, and at the target. The chaplain concluded the briefing with a short prayer. It was 5:00 a.m.

No scramble followed the briefing, as you might expect. No jet fighters screamed into the air. Not one aircraft actually left the ground, because the briefing did not take place in Korea, but at the Air Command and Staff College's Squadron Officer School at Maxwell AFB, Montgomery, Ala.

The mission briefing was part of

(Continued on page 64)

Above, a mythical fighter wing is moved. Students at the Squadron Officer School get plenty of opportunities to apply theory to realistic situations.

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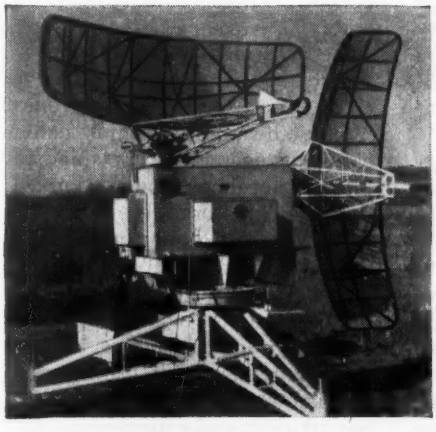

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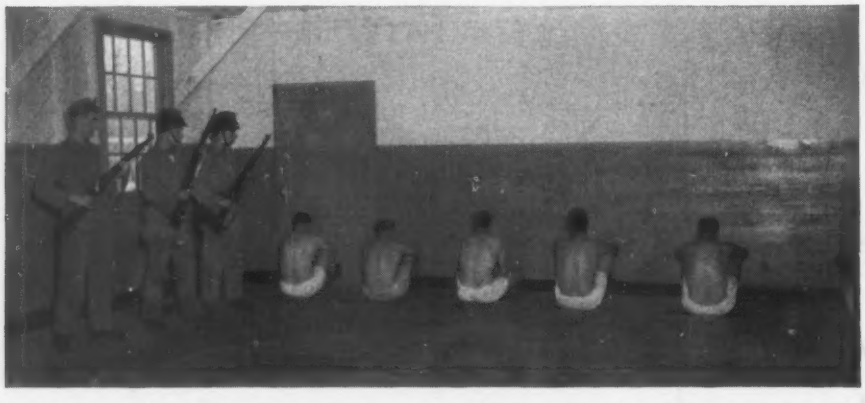
LFE SPAR

the Tactical Air Operation problem, one of the final school exercises. The 177th Fighter-Bomber Wing is a mythical wing which the students had activated, trained, moved overseas, and were now committing to combat operations. The students – captains and lieutenants acting as a wing staff –had to plan and conduct the missions under realistic combat conditions.

There were mistakes, and errors in judgment–which under actual combat might prove disastrous. However, as Col. Russell V. Ritchey, Assistant Commandant of the Air Command and Staff College, and former Director of the Squadron Officer School, points out, "Here is the place to make mistakes, when they don't count. If we can point out these mistakes and correct them, we can avoid those errors when the chips are down."

A faculty member, acting as section leader, evaluates each student for all situations. These small, close-knit sections are the heart of the course.



In Tiger Trek, students "escape" from prison and make their way through "enemy territory." This group was unsuccessful in their attempted getaway.

A "prisoner" is questioned, made to run until exhausted, questioned again.

Combat operations, however, are but one small part of the SOS curriculum. World affairs, writing, speaking, reading, techniques of command and staff work, leadership and management, activation, training, movement and combat employment are integrated into the fourteen-week course.

With outbreak of the Korean war in 1950, the Air Force once again began to expand. Thousands of Reservists were recalled to active duty and scattered throughout the Air Force, many into squadron command and staff responsibility.

The influx of men increased an already serious problem–the lack of fundamental, professional training and education among the veterans of World War II. During World War II these officers had been trained for highly specialized duty, served only in that duty and were released. They had learned little of the broad principles of organization, management, leadership, and employment, and had been taught few of the principles and techniques of command and staff duty. In addition, the Air Force had changed greatly. New aircraft, new weapons, new organization, different administrative procedures confronted the recalled Reservist. To develop these young officers into future leaders, the Air Force had to give them a well-rounded system of professional education.

So the Air Tactical School was deactivated and the Squadron Officer Course (now the Squadron Officer School) at Maxwell took its place. The course was completely redesigned to provide the first step in the Air University program of professional education for both Regulars and Reserves.

The curriculum of the Squadron Officer School concerns itself primarily with present principles rather than facts, for principles tend to remain unchanged. All officers must be able to think clearly and logically, to solve problems, and to arrive at sound workable decisions and recommendations. And an officer must be able to communicate his decisions clearly and concisely, orally or in writing, to those who must carry them out.

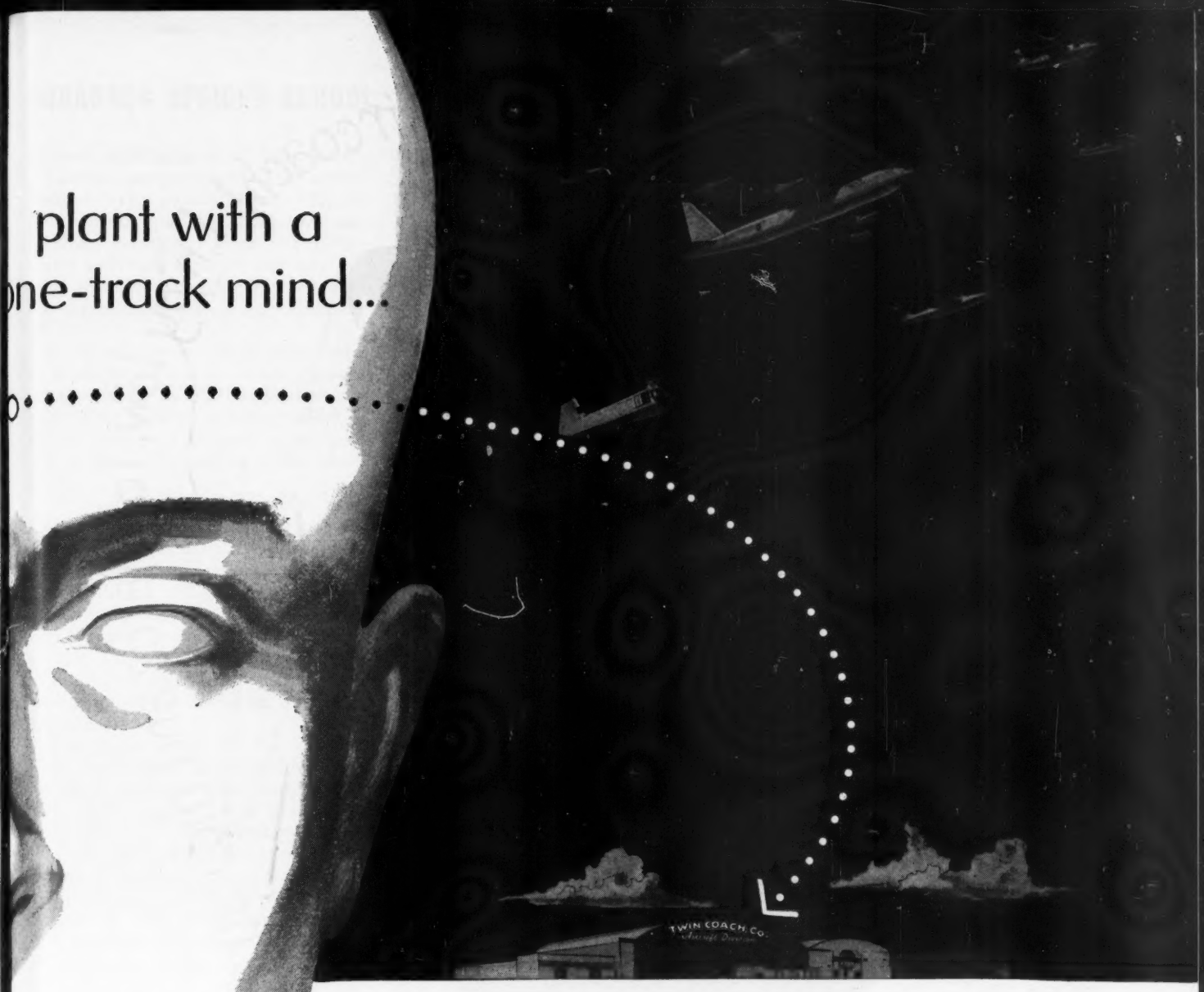
These elements are summed up in the theme of the Squadron Officer School: Think–Communicate–Cooperate.

At SOS factual information is presented, not as an end in itself, but as a tool to enable the student officer to improve his ability to think, communicate, and cooperate. Facts and principles are not data to be memorized and then quickly forgotten. The students get plenty of opportunity to apply them in as realistic situations as can be devised in an academic situation. Not only do they use what they learn during the course in solving these problems, but they must use the cumulative knowledge gained through previous training and experience.

Finally, the curriculum treats each subject as a part of an interrelated whole–the complex organism of the Air Force. One of the guiding principles of the course is that knowledge

(Continued on page 67)

plant with a ne-track mind...



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without application is of little value.

Lectures are presented to the entire student body, usually about 750, in the morning periods. Lecturers are carefully selected by the Air Command and Staff College, not only for their specialized knowledge, but also for their ability to convey ideas to others.

In the afternoons, the student body is broken down into small groups, usually twelve to thirteen students in each. One faculty member, called a section leader, is assigned to each of the sections. The section is the heart of the course.

The task of the section leader, usually a major or a captain, is not an easy one. He lives with his students, conducts group discussions, supervises and criticizes student-led problems, evaluates student writing and speaking. He must be able to evaluate each student in all situations—some of which entail considerable stress—and then counsel him about his strengths and weaknesses.

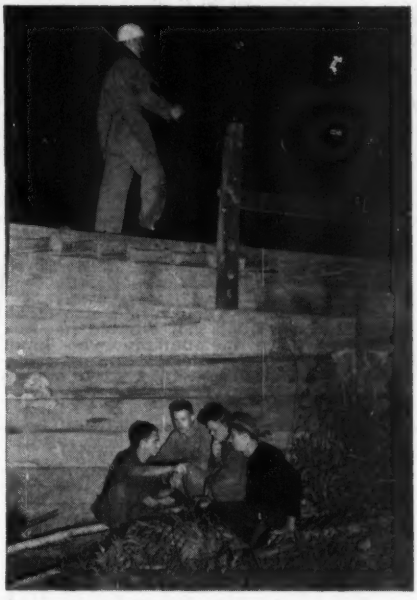
The organization of the student body into sections affords an ideal unit for many extra-curricular activities at SOS. Each section forms a team in the compulsory athletic program; it forms an aircrew for the evasion and escape problem; it becomes a task group for solving outdoor problems at Project X. The section also forms a unit to build high morale and esprit de corps—the will to win.

As Lt. Col. J. R. Anderson, USMC, stated in AIR FORCE Magazine ["Jet Blasts," June '54, page 61.—The Editors.], "The point is that to build morale and prestige we need more leadership, tradition, pageantry, ceremony, and in plain language, color. These things give a sense of pride, a connection with the past, and a will to make the organization better in the future."

Such things are being accomplished at SOS. The athletic program, mentioned earlier, serves to weld the unit together and exploits the innate desire for competition. Each section has a pennant bearing the section number and the course emblem. The pennants are carried and displayed at all athletic events and social functions. Each group, which is composed of nine or ten sections, also has its flag.

Section parties and formal group "dining ins," patterned after the traditional British dining in, are held periodically during the course. Themes, slogans, and mottoes are used to advantage—"Think or Die," "Every Man a Tiger," "Think-Communicate-Cooperate," and even "Stay Loose."

A section that possesses high morale usually does extremely well in the academic phases of the course. However, tradition, prestige, and morale are not fostered solely for their value to the course. The students are shown how these things can be developed in their units in the field to help them accomplish their missions better.



A group who successfully escaped from a prison camp hides from a guard.

Another aspect, closely akin to unit morale, is leadership. Class 54-B saw the birth of the Leadership Development Area. As the name implies, it is a separate area, removed from the regular SOS academic area, where each section spends two to three weeks of the fourteen-week course. Here the students run the show. They are responsible for their own organization, discipline, mess, administration—always under the critical eye of the section leader.

The Leadership Development Area follows a plan used throughout the SOS—to get multiple outcomes from all activities. Here, the students learn the fundamentals of Air Base Defense planning and at the same time are placed in leadership situations.

The stress on the students in this problem is quite great. They must guard against infiltrators and the problem is climaxed with a concentrated attempt by other troops to penetrate the defensive positions and destroy vital elements of the base.

Another form of leadership training and practical training in problem solving is known as "Project X." X is a series of twelve physical tasks, each simulating a combat problem calling for quick group solution and action. For example, a section gets fifteen minutes to move a fifty-five-gallon drum of gasoline across a heavily mined field and over a four-foot barrier, using only two sections of steel pipe, a plank or two, and a piece of manila rope. Stepping on any part of the simulated mine field or dropping any part of the equipment will theoretically blow the section sky high. Though no leader is appointed, one individual usually emerges to direct the activities. Originated by the Germans and used by the British in World War II for training commandos and testing potential officer material, SOS's Project X is an excellent training laboratory.

Following Project X is "Tiger Trek," an all-night field exercise built around evasion and escape. Again, this is problem solving under stress. After a day in the classroom, sections are taken to a prison camp surrounded by a wire fence and "Red" guards. The students are required to escape from the prison compound and make their way back to the base through "enemy territory" heavily patrolled by "Red" sentries, guards, and motor patrols.

If captured, an officer is interrogated by a specially trained team from the Air Defense Command. Sometimes he is grilled for as many as four hours — questioned — exercised — questioned—taken out and made to run until his legs will barely hold his weight —questioned some more—"Where is the first check point?", "Who helped you escape?", "What were you doing down by the lake?", "Where were you going?"

Some break under this rigid test and confess but most don't. Most students who have been through it feel that every officer should be afforded the experience. Although the interrogations are primarily to give the student a knowledge and experience of some of the methods used and afford the defense team practice, they may eventually help solve the intrinsic problem of behavior after capture.

The problems of educating and training Air Force officers for wars of the future are many and varied. The plans for the Squadron Officer School of tomorrow are, and will remain, flexible to include new areas of instruction, new devices for training, and new changing programs.

Bold planning exists. How much of such a program can be translated into actuality will depend on time and future budgets and cannot as yet be fully answered. But one fact remains—the value of SOS training to support an aggressive, combat-oriented Air Force has already been proved. In the future as today an Air Force officer must think or die.—END

THIS IS AFA

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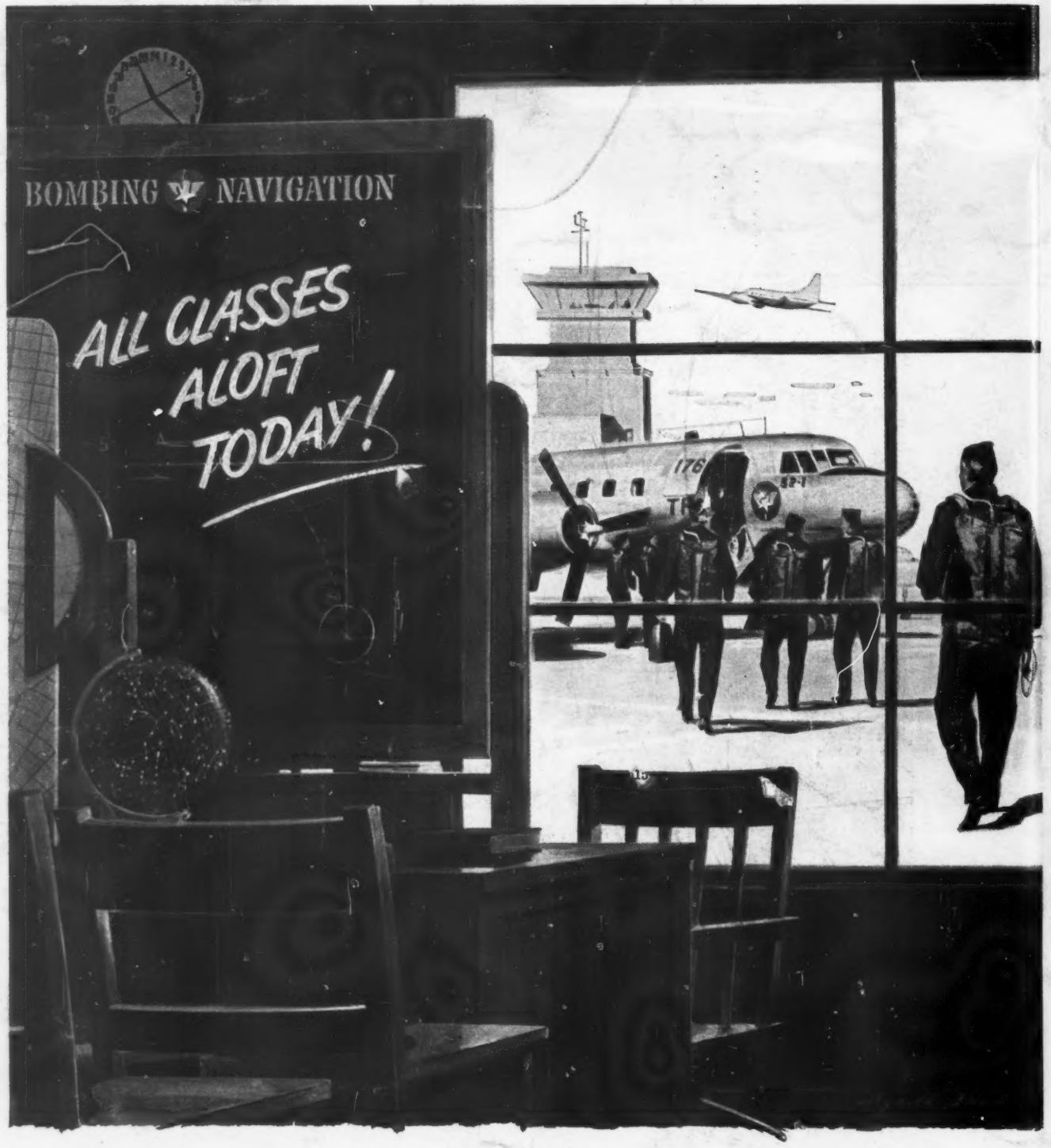

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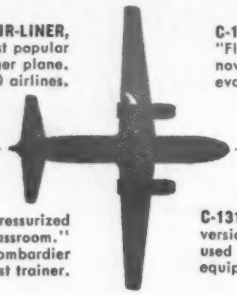
C-131A, Convair "Flying Samaritan" now in service as air evacuation transport.



T-29D, pressurized "Flying Classroom." Navigator-bombardier specialist trainer.

C-131B, still another version of the Convair used as an electronic equipment test bed.

United States Air Force Air Observer Cadets are getting a big lift from Convair's famous T-29 "Flying Classrooms." These multi-place military aircrew trainers are helping to teach the ABC's of air power where it counts the most... aloft!

The Training Command's latest version of the T-29 is the "D"—a combination navigation-bombardment school to train students in all phases of radar, optical bombing, and navigation with the same type of equipment installed in combat aircraft.

The T-29 series, like all Convair aircraft, is the result of engineering that aims at the *maximum* of air power...

CONVAIR **Engineering to the *Nth* power**

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